

THE YEAR BOOK OF EDUCATION 1939

GENERAL EDITOR

HARLEY V. USILL

JOINT EDITORIAL BOARD

Professor F CLARKE (*Chairman*)

Director of the University of London Institute of Education

Professor H R HAMLEY

Professor of Education, University of London Institute of Education

Professor F A. CAVENAGH

Head of the Department of Education, King's College, University of London

G WINTHROP YOUNG

Wall Reader in Education, King's College, University of London

Dr I L KANDEL

International Institute, Teachers' College, Columbia University, New York, U S A

Published in association with

THE UNIVERSITY OF LONDON INSTITUTE OF EDUCATION
BY EVANS BROTHERS LTD, RUSSELL SQUARE, LONDON

PREFACE

THE YEAR BOOK OF EDUCATION, founded in 1932 by Sir Robert Evans, was singularly fortunate in having as its Editor-in-Chief for the first four years the Right Honourable Lord Eustace Percy, formerly Minister of Education, under whose direction it became a publication of international repute. The first three volumes presented a survey of the structure of Education in Great Britain, the British Commonwealth of Nations and many Foreign Countries. In 1935, however, it was felt, in view of the ever-changing needs of Education, that a valuable service could be rendered by continuous original research into specific problems of Education, and that the fruits of such research should have a permanent place in THE YEAR BOOK OF EDUCATION, in addition to the features which had hitherto been included. With this aim in view, The University of London Institute of Education was invited to form, with the Editor, a Joint Editorial Board, which would hereafter be responsible for the editorial contents of the YEAR BOOK. The responsibility for the production of the YEAR BOOK remains, as formerly, with the Publishers.

H. V. U

CONTENTS

PREFACE	3
INTRODUCTION	9
<i>Harley V Usill</i>	

PART ONE—NOTES ON CURRENT EDUCATIONAL PROBLEMS

Compiled by Harley V Usill

11

PART TWO—STATISTICS IN THE BRITISH COMMONWEALTH OF NATIONS, THE U.S.A. AND EUROPE (Summary Table)

Edited by Harley V Usill and Dr N Hans

SECTION		
<i>One</i>	ENGLAND AND WALES	30
<i>Two</i>	SCOTLAND	61
<i>Three</i>	NORTHERN IRELAND	63
<i>Four</i>	CANADA	64
<i>Five</i>	AUSTRALIA	68
<i>Six</i>	UNION OF SOUTH AFRICA	75
<i>Seven</i>	NEW ZEALAND	79
<i>Eight</i>	EIRE	82
<i>Nine</i>	BRITISH INDIA AND BURMA	86
<i>Ten</i>	UNITED STATES OF AMERICA	88
	<i>Dr William G Carr</i>	
<i>Eleven</i>	EUROPEAN COUNTRIES	96
<i>Twelve</i>	BRITISH MALAYA	97
	<i>Dr R W B Jackson</i>	
<i>Thirteen</i>	REGIONAL PROVISION FOR POST-PRIMARY EDUCATION IN ENGLAND	
	<i>Dr N Hans</i>	
CHAPTER		
<i>One</i>	SENIOR SCHOOLS OR DEPARTMENTS	128
<i>Two</i>	SECONDARY SCHOOLS	140
<i>Three</i>	TECHNICAL AND VOCATIONAL EDUCATION	173
<i>Four</i>	AGRICULTURAL EDUCATION	183
<i>Five</i>	FINANCIAL POLICY OF THE STATE	193
<i>Six</i>	REGIONAL PROVISION FOR POST-PRIMARY EDUCATION IN WALES	214

PART THREE—SURVEY OF FINANCE IN THE UNITED KINGDOM

<i>One</i>	SURVEY OF EDUCATION EXPENDITURE IN ENGLAND AND WALES	232
	<i>Contributed</i>	
<i>Two</i>	SURVEY OF EDUCATION EXPENDITURE IN SCOTLAND	239
	<i>Contributed</i>	

PART FOUR—PHILOSOPHIES OF EDUCATION

SECTION ONE

CHAPTER		PAGE
<i>One</i>	EDUCATION AND THE SURVIVAL OF DEMOCRACY • <i>The Rt Hon Lord Stamp, G C B, G B E, F B A</i>	254
<i>Two</i>	THE CONDITIONS AND CONTENT OF THE NEW ORDER OF GERMAN EDUCATION <i>Dr Phil Gerhard Grafe, Director of the German Academic Exchange Service, Berlin</i>	262
<i>Three</i>	EDUCATION IN EIRE <i>Dr T Corcoran, Professor of Education, University College, Dublin</i>	282

SECTION TWO—THE YEAR'S WORK IN ENGLISH
EDUCATION, 1937-8

<i>W Fraser Mitchell, Lecturer in Education in the Univer- sity of Reading</i>	295
--	-----

PART FIVE—A SURVEY OF SENIOR AND
CENTRAL SCHOOLS

Prepared under the direction of *Professor H R Hamley*,
Professor of Education, University of London Institute
of Education

<i>One</i>	INTRODUCTORY SURVEY <i>Professor H R Hamley</i>	327
<i>Two</i>	POST-PRIMARY EDUCATION AND CITIZENSHIP <i>Dr Eric C Walker, Director of Education, Bedford</i>	330
<i>Three</i>	POST-PRIMARY EDUCATION IN RELATION TO VOCATION, CITIZENSHIP AND LEISURE <i>A Greenough, Headmaster, William Rhodes Boys' Modern School, Chesterfield</i>	338
<i>Four</i>	THE SENIOR SCHOOL AND PROGRESSIVE EDUCATION <i>Miss C G Wilson, Headmistress, Coston Senior Girls' School, Greenfold</i>	345
<i>Five</i>	THE PLACE OF THE SENIOR AND CENTRAL SCHOOL <i>Dr H G Stead, Chief Education Officer, Chesterfield Education Committee</i>	355
<i>Six</i>	THE PURPOSE OF THE SENIOR AND OF THE CENTRAL SCHOOL <i>R H Duce, Headmaster, Crofton Park Central School, London, S E 6</i>	363
<i>Seven</i>	THE FUTURE OF THE SENIOR AND CENTRAL SCHOOL <i>Dr H G Stead</i>	368
<i>Eight</i>	REORGANISATION OF ELEMENTARY EDUCATION IN COUNTIES <i>H M Spink, Director of Education, County of North- umberland Education Committee</i>	373
<i>Nine</i>	THE RURAL SENIOR SCHOOL <i>R N Armsfelt, Secretary, County of Devon Education Committee</i>	379

PART SIX—THE EDUCATION OF FEMALES IN BRITISH INDIA

Prepared under the direction of *Sir George Anderson*,
formerly Educational Commissioner with the Govern-
ment of India

CHAPTER		PAGE
<i>One</i>	INTRODUCTORY SURVEY <i>Sir George Anderson</i>	389
<i>Two</i>	FEMALE EDUCATION IN INDIA FINANCE AND ADMINISTRATION <i>Lady Mabel Hastog</i>	401
<i>Three</i>	HISTORICAL SURVEY OF FEMALE EDUCATION <i>M R Paranjpe</i> , Editor, "Progress of Education," Poona	412
<i>Four</i>	SOME ASPECTS OF WOMEN'S EDUCATION IN INDIA <i>Miss J T McNair</i> , Principal, Kinnaird College, Lahore	423
<i>Five</i>	A CRITICAL EXAMINATION OF THE EDUCATION OF WOMEN <i>K G Sayyadan</i> , Director of Public Instruction, Kashmir	432
<i>Six</i>	GIRLS' EDUCATION IN INDIA TO-DAY <i>Mrs Irene Mason Harper</i> , Mission School and Training College, Moga	440

PART SEVEN—LANGUAGE PROBLEMS IN COLONIAL EDUCATION

Prepared under the direction of *H S Scott*, formerly
Director of Education, Kenya

<i>One</i>	GENERAL SURVEY OF THE PROBLEM <i>H S Scott</i>	450
<i>Two</i>	THE PROBLEM OF BILINGUALISM IN Ceylon <i>L Macrae</i> , late Director of Education, Ceylon	457
<i>Three</i>	POLICY AND METHODS WITH REFERENCE TO BILINGUAL PROBLEMS IN BRITISH MALAYA <i>J B Neilson</i> , Senior Education Officer, Malayan Educa- tion Service	469

PART EIGHT—A SURVEY OF TECHNICAL EDUCATION

SECTION ONE—THE STATUS OF TECHNICAL EDUCATION

Prepared under the direction of *Dr Reinhold Schaver*,
Head of the Department of International Studies,
University of London Institute of Education

<i>One</i>	INTRODUCTORY SURVEY <i>Dr Reinhold Schaver</i>	491
<i>Two</i>	THE IMPORTANCE OF VOCATIONAL TRAINING <i>H B Butler</i> , Director of the International Labour Office	541
<i>Three</i>	THE INTERNATIONAL LABOUR CONFERENCE AND TECHNICAL EDUCATION <i>F W Leggett, C B</i> , Chairman of the Governing Body of the International Labour Office	544

CHAPTER		PAGE
<i>Four</i>	THE SIGNIFICANCE OF VOCATIONAL EDUCATION IN OUR TIME <i>Mlle Lucie Schmidt</i> , Expert on Questions of Vocational Guidance, Technical Education and Apprenticeship, International Labour Office	550
<i>Five</i>	TECHNICAL EDUCATION AND ITS RELATION TO INDUSTRIAL • MANAGEMENT <i>A P Young, O B E</i> , General Manager, British Thomson-Houston Company, Ltd	555
<i>Six</i>	PROBLEMS CONFRONTING TECHNICAL EDUCATION IN ENGLAND <i>J Wickham Murray</i> , Secretary, Association of Teachers in Technical Institutes	567

SECTION TWO—TECHNICAL EDUCATION AT WORK

I EUROPEAN COUNTRIES

Prepared under the direction of *Dr Reinhold Scharer*

<i>One</i>	APPRENTICESHIP TRAINING AND THE GERMAN EXECUTIVE OF THE TECHNICAL SCHOOL SYSTEM <i>Dr Ing Adolf Heilandt</i> , Director, A E G Training Institute, Berlin	572
<i>Two</i>	THE HUMANITARIAN SOCIETY, MILAN <i>Elio Pallazzo</i> , Director of the Umanitaria, Milan	578
<i>Three</i>	THE PARTICIPATION OF FREE GROUPS (AND PRIVATE PERSONS) IN TECHNICAL AND VOCATIONAL EDUCATION IN THE NETHERLANDS <i>Jonkhcer G Hofstede</i> , General Director of Dutch Technical Education	582
<i>Four</i>	THE UNIVERSITY DU TRAVAIL AT CHARLEROI, BELGIUM <i>Professor J Hiernaux</i> , President of the Université du Travail	592
<i>Five</i>	THE FEDERAL TECHNICAL COLLEGE AT ZURICH <i>Dr A Rohm</i> , President of the Swiss School Council	599

II BRITISH COMMONWEALTH OF NATIONS AND THE U S A

<i>Six</i>	TECHNICAL EDUCATION IN CANADA <i>Dr F H Seaton</i> , Director of Technical Education, Halifax, Nova Scotia, Canada	604
<i>Seven</i>	TECHNICAL EDUCATION IN AUSTRALIA <i>Dr K S Cunningham</i> , Executive Officer, the Australian Council for Educational Research, Melbourne, Australia	635
<i>Eight</i>	TECHNICAL EDUCATION IN SOUTH AFRICA <i>Dr E G Malherbe</i> , Director of the National Bureau of Education and Social Research, Pretoria, South Africa	665
<i>Nine</i>	TECHNICAL EDUCATION IN NEW ZEALAND <i>Dr C E Beeby</i> , Assistant Director of Education, Wellington, New Zealand	690
<i>Ten</i>	NORTHERN IRELAND SURVEY OF RELATIONS BETWEEN ORGANISED INDUSTRY AND TECHNICAL SCHOOLS <i>Dr Henry Garrett</i> , late Assistant Secretary in charge of Technical and Higher Education, Ministry of Education, Belfast	703

CHAPTER		PAGE
<i>Eleven</i>	TECHNICAL (VOCATIONAL) EDUCATION IN THE UNITED STATES <i>Franklin J Keller</i> , Principal of the Metropolitan Vocational High School, New York	715

PART NINE—EDUCATION IN EGYPT

<i>Mohammad Awad Ibrahim</i> , Assistant Under-Secretary of State, Cairo	746
--	-----

PART TEN—CURRENT RESEARCH IN EDUCATION

*Prepared under the direction of *Professor F A Cavenagh*,
Head of the Department of Education, King's College,
University of London

<i>One</i>	INTRODUCTORY NOTE <i>Professor F A Cavenagh</i>	756
<i>Two</i>	STATISTICAL BIBLIOGRAPHY IN RELATION TO MODERN CIVILISATION <i>Dr Ronald Hitchcock</i> , Head of Department of Education, University College, Leicester	758
<i>Three</i>	THE TEACHING OF LATIN IN ENGLAND A CRITICAL AND HISTORICAL SURVEY <i>Dr C N Worden</i> , Senior Classical Master, The Grammar School, Tottenham	777
<i>Four</i>	THE HISTORY AND DEVELOPMENT OF BOYS' PREPARATORY SCHOOLS IN ENGLAND <i>Frank C Pritchard</i> , English Master, Ross Grammar School	785
<i>Five</i>	STATE INTERVENTION IN EDUCATION IN ENGLAND UNDER THE EARLY STUARIES <i>Leonard G Young</i> , Assistant Master, Liverpool Institute High School for Boys	794

APPENDIX PLANS FOR THE PROTECTION OF SCHOOL-CHILDREN IN WAR TIME <i>Harley V Usell</i>	805
---	-----

INDEX	808
-------	-----

INTRODUCTION

IN the Introduction to the 1938 volume we stated that the YEAR BOOK OF EDUCATION "is not a collection of academic essays of purely professional interest, but contains discussions of problems of vital interest to all who wish to be acquainted with movements which are destined to change the face of human society as we know it to-day." Among these vital problems, none has proved more important than the clash of ideologies—a clash which brought Europe to the brink of war in the autumn of 1938 and may yet cause a European conflagration. Doubtless there are educationists who would assert that ideologies belong to the field of politics and, as such, are not the concern of education. Whatever may have been true in the past, it would now appear abundantly clear that the increasing exploitation of the educational machine for the propagation of nationalist or supra-nationalist ideologies is a problem which cannot be ignored. We trust, therefore, that the section in this volume entitled "Philosophies of Education" will serve a useful purpose in presenting a picture of those forces which are destined, for good or ill, to shape the future of civilisation, and in delineating the part which education may be called upon to play, either as a free agent or as an integral part of a state machine.

Before reviewing in detail the contents of this volume, we must make reference to the publication of what is already being referred to as the Spens Report. The YEAR BOOK OF EDUCATION has consistently advocated the reform of secondary education and the expansion of technical education. In 1933, Lord Eustace Percy urged the necessity for establishing an adequate system of post-primary technical schools, and in 1934, Mr Percival Smith, when discussing the problem of secondary schools, pointed out the inability of the traditional secondary school to adapt itself to changing conditions. Thus, the main conclusions drawn by Lord Eustace and Mr Smith anticipated the recommendations of the Report concerning curricula and the establishment of a new type of secondary school called the Technical High School. The historical chapters of the Report might with advantage be compared with the Survey of Educational Traditions which Dr Hans contributed to the 1938 volume, together with his Regional Survey of Post-Primary Education in the present volume. In the latter, Dr Hans's analysis of the factor of unequal distribution, of the problems of administration and finance, and of the inadequacy of provision for technical and vocational education will serve to clarify and amplify many of the conclusions arrived at by the Consultative Committee. In addition, the section on Technical Education, in the present volume—especially the chapters by Dr Schairer, Mr Wickham Murray and other English contributors—supplies facts and sugges-

tions which confirm the conclusions arrived at in the Report. Although working quite independently of each other, the Consultative Committee and the group of experts who have contributed to the YEAR BOOK, have arrived at similar conclusions. This is even more significant when it is remembered that the contributors to the YEAR BOOK are individually responsible for their chapters and did not work as a Committee. The fact that the lines of argument are surprisingly similar indicates that the Report has adequately summarised and clearly expressed a consensus of opinion among educationists. It has, too, a further significance, since it represents a striking example of the effective working of a Democracy—freedom of thought leading ultimately to a consensus of opinion in favour of a course of action which will undoubtedly prove of lasting value to the State, and may even exert an influence over other countries within the British Commonwealth of Nations as great as that exercised by the Hadow Report.

In the 1937 volume of the YEAR BOOK, we presented a critical survey of the Problem of the Junior School in England and Wales. Now, under the guidance of Professor Hamley, a group of experts representing administration and practical teaching discuss the Senior and Central Schools. They show how these schools have responded to the needs of a rapidly changing world and what still remains to be done if democracy is to survive the challenge of other systems of Government. Each contributor, in his own way, postulates for democracy the need for a more positive approach to education.

Sir George Anderson and Mr H. S. Scott are again responsible for important surveys of Indian and Colonial education respectively. The two problems chosen for study, women's education in India and bilingualism in colonial education, are of more than local interest however, since they are representative, with minor differences, of problems facing administrators in many other parts of the world.

In addition to the regional survey of post-primary education undertaken by Dr Hans, original research is represented by the statistical analysis of education in the U.S.A. and British Malaya, and the abstracts from unpublished theses prepared under the direction of Professor Cavenagh. Hidden away in the archives of universities in all parts of the world there are many theses representing valuable original research which are not available to scholars outside the university concerned. We propose to continue to publish abstracts from some of these each year, and Professor Cavenagh would be glad to receive lists of unpublished theses, and also suitable abstracts from those which are considered to be of more than local interest. The Joint Editorial Board would welcome the collaboration, from any source, of those possessing knowledge of recent unpublished work, so that this new section of the YEAR BOOK may become of real assistance to students of education.

H V U

PART ONE

Notes on Current Educational Problems

THESE notes, which were introduced as a new feature in the 1938 volume of the YEAR BOOK, deal with problems which, it is believed, are of universal interest. They serve, too, to indicate the essential unity of nations in problems which affect the social welfare of their peoples. In order that the usefulness of this section of the YEAR BOOK may be further extended, the Editorial Board would welcome notes from any country in the world¹ on problems or research which are of more than local interest.

I THE PROBLEM OF BENEFICIAL EMPLOYMENT²

In the YEAR BOOK OF EDUCATION, 1937, pages 156-7, we pointed out the difficulties which might arise in attempting to interpret beneficial employment in relation to exemptions when the school-leaving age is raised to 15. Unless some definite agreement can be reached, there is likely to be a serious breakdown on and after the Appointed Day. To meet the possibility of such a situation arising, the West Riding of Yorkshire and its neighbouring local education authorities have decided in conference on the following types of employment for which exemption, except in special circumstances, should not be granted.

Lather boy, or similar occupation, in a barber's or hairdresser's shop, unless employment approximates to an apprenticeship, in the kitchen of any hotel, cook shop, bakehouse, fried fish shop, eating house, unless employment approximates to an apprenticeship, marker, etc., in billiard or bagatelle saloon, or other place licensed for games, or in any registered club, work in connection with sale of liquor, except where sold in sealed vessels, selling programmes or refreshments or other articles, selling or taking checks or tickets, shifting scenery, collecting or sorting rags or refuse, attendant or assistant in any premises or fairground used for amusement by means of automatic machines, shooting ranges, games of chance, etc., in any slaughter-house, work on race-course, or track, or as an assistant in any business conducted therein, underground worker in a coalmine, assistant in, or in connection with, any shop or pitch in an open market, hawking of firewood, flowers, fruit, vegetables, on the highway, attendant or assistant at public boxing or wrestling exhibitions, any employment by any turf bookmaker or commission agent, work in the

¹ It is not necessary that these should be in English since facilities for translation are available to the YEAR BOOK.

² For a full discussion of the problem of Juvenile Employment see the YEAR BOOK OF EDUCATION, 1936, pages 171-248.

manufacture of flour, work in the handling or manufacture of cement, work in a grinding shop, any employment which is systematically intermittent

In addition to the above catalogue of occupations for which exemption should not be granted, the Conference made certain valuable recommendations regarding general conditions of employment. It was agreed that employers should guarantee regular employment for at least a year, subject to satisfactory service being given. In the case of all applications for exemption, the school Medical Officer should be consulted as to the suitability of the proposed employment. Certain children may be unfit for work in a dusty or damp atmosphere, while others, especially girls, would be affected by prolonged periods of standing.

The existence of a welfare scheme should be regarded as a feature conducive to beneficial employment, also apprenticeships or equivalent training. It was further agreed that except in agriculture there should be no work before 8 a.m. or after 6 p.m. In cases where four hours a week are allowed off for day courses, the total hours of employment per week should not exceed forty, and when the exempted attend evening courses, this maximum should be reduced to thirty-six hours. Except in domestic service or agriculture, there should be no overtime under 15 years. There was a general recommendation, too, that employment should be progressive by the avoidance of blind-alley jobs.¹

Whereas the problem of exemptions in relation to undesirable occupations is comparatively easy to solve, the position is much more difficult when exemption is claimed for service in the home. The problem is much more serious for girls than boys, since the temptation to apply for exemption for a girl, who would be useful for domestic work, especially in large families, is very strong. Here the recommendations of the West Riding Conference are extremely valuable, since they clearly define the only conditions upon which exemption should be considered. Such exemption should only be given in the following cases: the mother or female guardian dead or incapacitated, no relatives, friends or neighbours available to give assistance, young children to be cared for, the family income such that a housekeeper cannot be employed. When exemptions are granted, the authority should secure for the child further education for four hours a week, and one half-day for recreation.

2 THE INFLUENCE OF SIZE OF FAMILY ON INTELLIGENCE

Dr J. A. Fraser Roberts, who is the principal investigator of the Burden Mental Research Trust, has recently carried out an investigation into the decline of intelligence in the population. For the inquiry 3,400 children, born between September 1931 and August 1935, representing a complete cross-section of the population of Bath, were chosen. It was found that there was a definite associa-

¹ See also YEAR BOOK OF EDUCATION, 1936, pages 229-32

tion between the number of children and the number of brothers and sisters it possessed. Whereas very clever children may come from large families, and very dull children from small families, as a general rule, the brightest children had about 16 brothers and sisters on the average, while the dullest had about 39. Further, 25 per cent of the brightest children were only children, but only 7 per cent of the dullest were only children. One highly significant finding was that the small number of brothers and sisters of the brightest children is quite independent of social class. There is a natural tendency, too, for the more intelligent persons in the population to have fewer children, while the lesser intelligent continue to increase.

The above investigation, if the conclusions were confirmed by experiments carried out in other areas, raises a problem of supreme social importance. In certain countries it is the definite policy of the Government artificially to stimulate an increase in population. If this is done, without recourse to a rigid selection of the families which are fit to produce children, there would appear to be a grave danger that the whole intelligence of a race may be greatly reduced. The theory of racial purity may not, in itself, be sufficient to guard against a lessening of national intelligence if size of family, as suggested above, influences the intellect of the individual child.

The decline in population which is noticeable in almost all the democracies has engendered serious misgivings in the minds of many people.

It is well to consider carefully, however, whether an indiscriminate increase in population is socially desirable. It is now generally agreed that a large proportion of the unemployed population is unemployable. It may be argued that continuous unemployment during periods of depression has led to this condition. For a certain proportion of the unemployed this may be true, but the fact still remains that the schools are receiving in increasing numbers a type of child whose intelligence is sub-normal, and for whom no amount of schooling will make any appreciable difference. To multiply this type in any attempt to increase population may lead to eventual racial suicide, especially in democracies, which depend for their very existence upon the ability of the individual to play his part in the central or local government of his country.

3 OVERWORK AT SCHOOL

In view of the anxiety felt in all countries about overwork at school and of the interest taken everywhere in campaigns for the health of the school child, the recommendations adopted in February 1938 by the child specialists of Geneva (Switzerland) and presented by them to the Department of Public Instruction will prove of considerable value. The recommendations are as follows:

The child-specialists in the medical profession at Geneva are particularly concerned with the effects of school life upon the health of the child whose most formative years are spent in studying at school.

manufacture of flour, work in the handling or manufacture of cement, work in a grinding shop, any employment which is systematically intermittent

In addition to the above catalogue of occupations for which exemption should not be granted, the Conference made certain valuable recommendations regarding general conditions of employment. It was agreed that employers should guarantee regular employment for at least a year, subject to satisfactory service being given. In the case of all applications for exemption, the school Medical Officer should be consulted as to the suitability of the proposed employment. Certain children may be unfit for work in a dusty or damp atmosphere, while others, especially girls, would be affected by prolonged periods of standing.

The existence of a welfare scheme should be regarded as a feature conducive to beneficial employment, also apprenticeships or equivalent training. It was further agreed that except in agriculture there should be no work before 8 a.m. or after 6 p.m. In cases where four hours a week are allowed off for day courses, the total hours of employment per week should not exceed forty, and when the exempted attend evening courses, this maximum should be reduced to thirty-six hours. Except in domestic service or agriculture, there should be no overtime under 15 years. There was a general recommendation, too, that employment should be progressive by the avoidance of blind-alley jobs.¹

Whereas the problem of exemptions in relation to undesirable occupations is comparatively easy to solve, the position is much more difficult when exemption is claimed for service in the home. The problem is much more serious for girls than boys, since the temptation to apply for exemption for a girl, who would be useful for domestic work, especially in large families, is very strong. Here the recommendations of the West Riding Conference are extremely valuable, since they clearly define the only conditions upon which exemption should be considered. Such exemption should only be given in the following cases: the mother or female guardian dead or incapacitated, no relatives, friends or neighbours available to give assistance, young children to be cared for, the family income such that a housekeeper cannot be employed. When exemptions are granted, the authority should secure for the child further education for four hours a week, and one half-day for recreation.

2 THE INFLUENCE OF SIZE OF FAMILY ON INTELLIGENCE

Dr J. A. Fraser Roberts, who is the principal investigator of the Burden Mental Research Trust, has recently carried out an investigation into the decline of intelligence in the population. For the inquiry 3,400 children, born between September 1931 and August 1935, representing a complete cross-section of the population of Bath, were chosen. It was found that there was a definite associa-

¹ See also YEAR BOOK OF EDUCATION, 1936, pages 229-32

tion between the number of children and the number of brothers and sisters it possessed. Whereas very clever children may come from large families, and very dull children from small families, as a general rule, the brightest children had about 1.6 brothers and sisters on the average, while the dullest had about 3.9. Further, 25 per cent of the brightest children were only children, but only 7 per cent of the dullest were only children. One highly significant finding was that the small number of brothers and sisters of the brightest children is quite independent of social class. There is a natural tendency, too, for the more intelligent persons in the population to have fewer children, while the lesser intelligent continue to increase.

The above investigation, if the conclusions were confirmed by experiments carried out in other areas, raises a problem of supreme social importance. In certain countries it is the definite policy of the Government artificially to stimulate an increase in population. If this is done, without recourse to a rigid selection of the families which are fit to produce children, there would appear to be a grave danger that the whole intelligence of a race may be greatly reduced. The theory of racial purity may not, in itself, be sufficient to guard against a lessening of national intelligence if size of family, as suggested above, influences the intellect of the individual child.

The decline in population which is noticeable in almost all the democracies has engendered serious misgivings in the minds of many people.

It is well to consider carefully, however, whether an indiscriminate increase in population is socially desirable. It is now generally agreed that a large proportion of the unemployed population is unemployable. It may be argued that continuous unemployment during periods of depression has led to this condition. For a certain proportion of the unemployed this may be true, but the fact still remains that the schools are receiving in increasing numbers a type of child whose intelligence is sub-normal, and for whom no amount of schooling will make any appreciable difference. To multiply this type in any attempt to increase population may lead to eventual racial suicide, especially in democracies, which depend for their very existence upon the ability of the individual to play his part in the central or local government of his country.

3 OVERWORK AT SCHOOL

In view of the anxiety felt in all countries about overwork at school and of the interest taken everywhere in campaigns for the health of the school child, the recommendations adopted in February 1938 by the child specialists of Geneva (Switzerland) and presented by them to the Department of Public Instruction will prove of considerable value. The recommendations are as follows.

The child-specialists in the medical profession at Geneva are particularly concerned with the effects of school life upon the health of the child whose most formative years are spent in studying at school.

The child needs an average of nine to ten hours of sleep,¹ and the fourteen hours of his day should not comprise more than seven hours of work, including homework, the remaining seven hours being left free for meals, dressing, play, home-life, moral or religious educational exercises, hygiene, etc

The school week should not have more than thirty-five hours, including homework

The senior classes of secondary schools might make an exception and establish an eight-hour day on the model of the working day of adults

On the basis of these conditions of life, which they consider to be normal for children, the paediatrists in the medical profession at Geneva hope that the Department of Public Instruction will receive favourably the following proposals concerning school work

(i) Saturday afternoons to be free as well as Thursdays²

(ii) No sort of achievement test to be held on Mondays and no homework to be set that involves working on Sundays

(iii) As far as possible, the class-teacher to be alone responsible for the teaching in the lower section of secondary schools

(iv) Taking into account the strain inherent to growth, puberty and the illnesses common to childhood, no disgrace to be attached henceforth to repeating a class, that contingency being counter-balanced by granting the pupil all kinds of facilities, such as missing a school year, or passing into a higher class without taking all the subjects generally required

(v) The medical men wish it to be understood that they do not consider the decrease of school hours they ask for as justifying a lowering of the salaries of teachers. The hours set free might be usefully employed in preparing the lessons to be taught

In expressing these desires, which they hope will be shared by their colleagues in the other Cantons, the paediatrists of Geneva believe that they are working for the good of their country and acting in conformity with the modern demands of hygiene and of medicine

4 THE CHILDREN AND YOUNG PERSONS ACT, 1933³

This Act became operative as from November 1st, 1933, i.e. some five years ago. So far as local authorities are concerned, the main changes were to place upon them the duty of providing the juvenile courts with information about the boys and girls

¹ The London County Council has recently issued a leaflet adjuring parents not to let their children suffer from *sleep-starvation*. Children aged 4 (twelve hours) should go to bed at 6.30 p.m., 5 to 7 (eleven to twelve hours) at 7 p.m., 8 to 11 (ten to eleven hours) at 8 p.m., 12 to 14 (nine to ten hours) at 8 to 9 p.m. The figures in parentheses are the essential hours of sleep

² In the Canton of Geneva, as in France, Thursday is the weekly whole-holiday

³ From the Annual Report (1938) of the Chief Education Officer to the Hertfordshire County Council

appearing before the courts, the duty to provide remand homes and the primary responsibility for bringing before the courts boys and girls in need of care or protection. They were also empowered to act as "fit persons" to whose care boys and girls may be committed by the courts.

As to methods of treatment, the innovations were that the period for which a boy or girl may be sent to an approved school may not in general now exceed three years. Facilities for that method of treatment which consists in placing a boy or girl with foster-parents were increased by giving the court power to commit a child or young person to the care of the local authority for the purpose of being boarded out. Boys and girls who are not charged with an offence against the law, but who are in need of care and protection for the broad reason that they are inadequately controlled at home and are in danger of drifting into crime or loose living, may now be placed under the supervision of a probation officer or other suitable person and thus be given the same friendly assistance and guidance as those who are placed on probation. These are the main changes effected by the Act of 1933. It will be seen that they are far-reaching and that, therefore, time was needed before the Act could be in full effective operation.

The juvenile courts are dealing with individual girls and boys of varying character and temperament, and the final test of the success of the Act will be whether it is effective in saving these boys and girls from a life of crime or disorder and turning them into decent members of society. The Home Office in a recent Report express the view that the fact that the amount of adult crime in relation to population during the last fourteen years or so is either stationary or declining seems to point to the conclusion that the treatment of boy and girl offenders in the recent past has been on the right lines. It is therefore reasonably to be expected that the treatment applied under the new Act to the children of to-day will result in a further diminution of adult crime in the future.

On March 31st, 1938, there were seventy-nine Hertfordshire children and young persons in approved schools, as against thirty-four immediately prior to the coming into operation of the Act of 1933, and who were at that time in what were known then as "Industrial" and "Reformatory" schools. In addition, the County Council are collecting contributions from the parents of eleven children and young persons who are either in approved schools or have been committed to the care of other local authorities and whose parents have, since the orders were made, removed to Hertfordshire. Conversely there are six cases of Hertfordshire children whose parents have removed to the areas of other authorities, and the out-county authority is responsible for the collection of the parents' contributions.

The onus of collecting contributions from the parents was transferred by the Act from the police to the local authorities. These collections are in this county made by the School Attend-

ance Officers, and the Home Office allow them 10 per cent commission on such collections. In those cases where the court make no contribution order against the parents at the time the child or young person is committed, it is necessary for the local authority to institute inquiries as to the circumstances of the parents or whoever is under the Act liable to contribute, and to decide what contribution shall be required. The enforcement of payment of the contributions is a matter for the County Council or County Borough Council for the district where the person liable to contribute is for the time being resident, and, where necessary, proceedings can be taken with a view to the recovery of arrears.

In addition to the children and young persons committed to approved schools there are ten cases in which the County Council have been appointed to the position of "fit person". In such cases it is necessary for arrangements to be made by the County Council for the boarding out of the children and young persons with suitable foster-parents and to arrange for their supervision, visiting, medical care and attention, and placing out when they have reached the age at which they are no longer required to attend a public elementary school. These "fit person" orders ordinarily remain operative until the child or young person has reached the age of 18.

Juvenile courts are empowered to make probation orders in respect of children and young persons who have been guilty of an offence, also to make supervision orders in respect of boys and girls found to be in need of care and protection (Section 62) or who, having been brought before the court by their parents or guardians, are found to be beyond control (Section 64). Many such orders are made, and there are a large number at present in operation in this country.

Many explanations have been suggested for the increase in the number of offenders—poverty, bad housing, the absence of facilities for games, and insufficient number of boys' clubs, the greater temptations which beset the modern boy (such as greatly increased production of cheap articles attractive to the young, their profuse display in many shops without a corresponding degree of extra supervision by staff, the increased number of motor cars left unattended), a decay in standards of conduct and of parental control, a weakening of religious influences—all these causes, it has been suggested, have contributed to the increase in the number of boys appearing before the juvenile courts. It is no doubt true that some, or possibly (though not certainly) all, of these causes have an influence on the matter, but experience of cases in this county has been that broken homes, domestic strife and infidelity have been the indirect cause of the majority of cases of juvenile delinquency. Most of these cases are psychological, and the cause of the trouble can often be traced to lack of parental care and affection. The unwanted child can so easily develop a grudge against the world. The aim of the approved school system and, in a rather different

degree, of the arrangements for boarding-out with foster-parents, is to restore the child's self-respect and to make him feel that he is wanted, and thus to turn him into a respectable and useful member of society. It is for this reason that a good mother and a motherly foster-parent can do much in the development of the child's character. An interesting sidelight on this is the noticeable improvement in the mental capacity of many delinquents and children in need of care or protection after quite a short time in an approved school or good foster-home.

There was an unexpectedly large rise in the figures for 1934 and 1935 throughout the country, and the factor which immediately suggests itself is the coming into force of the new Act at the end of 1933. Its passage no doubt stimulated interest in the problem of juvenile delinquency. The guiding principle laid down in the Act was that every court should have regard to the welfare of the boys and girls appearing before it, and those concerned with the application and administration of the new law were obviously influenced by the desire to make use of the provisions designed by Parliament for the benefit of the children in the country. The greater activities of the juvenile court and the greater attention devoted to the problem of how best to secure, for example, that a boy who has stolen should develop into an honest citizen are allied to the increased activities in other spheres designed to improve the health and education of the young, and it is thought that this explanation is more reasonable than any which assumes that in the two years above referred to there was a sudden extraordinary outbreak of lawless activity amongst the young.

The figures for 1936 throughout the country are encouraging and indicate that the use of the Act was attaining a maximum in 1934 and 1935 and reaching equilibrium in 1936.

5 THE FUTURE POSITION OF MODERN LANGUAGES IN THE SECONDARY SCHOOL CURRICULUM

The Board of Education published in July 1938 (Circular No 1463) recommendations regarding the School Certificate Examination put forward by the Secondary School Examinations Council. The recommendations proposed alterations to the group system which, if approved by the eight examining bodies, would have the far-reaching effect of making modern languages optional at the First School Examination. Expressed in its simplest terms, this would mean that, for the great majority of secondary school candidates, French would be no longer compulsory.

At first sight such a measure would appear to be a serious blow to the study of modern languages. In many schools, especially boys' schools, there would be a strong tendency for French to lose its place in the curriculum and for teachers of French to lose prestige. Ultimately, the balance of the university curriculum might become affected.

It would be idle to deny that the proposals are a reflection on the present standard of teaching, nor can it be doubted that they have been made because the average attainment in French, as evidenced by examination results, is low.

The recommendations probably occasioned more consternation than surprise. In recent years, reports and memoranda on language teaching in general and on the teaching and position of French in particular, have followed one another in quick succession. The significance of this could not be misunderstood. Obviously, all was not well. The recommendations, whether they be accepted or not, will certainly have one good effect. All engaged in the teaching of languages will inevitably examine their methods afresh.

What must be recognised is that the most excellent methods applicable to the teaching of other subjects are inapplicable to the teaching of languages. Learning any language is a psychological process, a natural process utterly different from that involved in learning, for example, geography or history. Using a language is an acquired *skill*, depending for its success on faculties which may have little or no importance in the practice of, say, mathematics. The mere fact that the student has to pass an examination in a language in no way modifies in his case the psychological process by which languages generally are acquired. Neither can a teacher, however skilful, alter that process, though he may easily check or frustrate it.

Reason may help the student, a good memory is valuable, but fundamentally language learning is a question of the cultivation of habits—oral, aural, visual and muscular habits—and these may be almost entirely divorced from intelligence. Even congenital idiots learn a language.

In the teaching of most subjects, appeal is and must be made to the intelligence. Where much of our language teaching would seem to have failed is in the attempt to base itself rather on reasoning processes than on sense-habit formation. It is undeniable that the present examination system, by its attempt to test knowledge of the elements of a language rather than skill in using it, has tended to keep teaching on the wrong lines.

It is more than possible that, if modern languages were no longer compulsory at the First School Examination, many teachers would be ready to direct their classes along the road that they themselves must have followed in acquiring their own linguistic skill. With the shadow of the examination removed, fresh light would illumine the teaching, giving it the health and spontaneity that is apparently often lacking now.

There is little need to fear that languages will ever cease to be studied. Of all matters of study, they offer to the ordinary person, in post-school years, the most attractive combination of aesthetic pleasure, social advantage and practical benefit. To see that this is so, we have only to look around at the innumerable organisations professing to teach languages. No one seems to have seen financial

possibilities in offers to teach history, or geography or science to the multitude. But it is assumed, and with considerable justice, that a vast section of the population is ready to pay for courses in music, art and especially languages—all, be it noted, *skills* to be acquired, and not abstractions to be learnt.

6 A SURVEY OF CHILDREN'S READING¹

This experimental survey was undertaken by the Sheffield City Libraries in order to obtain information which may be of some value, not only to librarians, but to all students of the child mind. Among the many questions which perplex those responsible for the organisation of children's libraries are the following:

What are the reasons why children choose their books? How many don't read them through, and why? To what extent does the work of the school influence reading? Can the librarian and the teacher help? What type of books do children prefer, and at what ages? At what age do they read most? Do older children dislike the Junior Library? Does the format of books influence choice? Of what use are book exhibitions and picture posters? Does the radio affect reading?

Those responsible for this first survey make no claim to final judgments, but there is sufficient data to justify the following general conclusions:

An analysis by ages shows that the number of readers rises from 7 to 10, which is the peak year in both sexes. Interest then begins to decline, steadily in the case of boys, more gradually in the case of girls, for whom the figure remains fairly even until 13, when there is a sudden drop to a figure almost the same as that of the boys at 14, 15 and 16. The actual number of readers shows a preponderance of girls at all ages, and that much more fiction is read than non-fiction. It would appear that children do not despise the older books so much as is thought, although the trend to modernity is marked. From an analysis of the type of book selected, it was found that the most popular among boys were all stories, adventure and exploration stories, school stories and sea stories, while among girls school stories, fairy stories and domestic tales were found to be most popular. Imaginative non-fiction has a 30 per cent greater appeal among girls than non-fiction of a factual character. It was expected that the reading of boys would show considerable differences, but in this survey the reversal of interest is sufficiently striking to call for comment. The girls' ratio of approximately four imaginative to three factual books is changed in the boys to a ratio of four factual to one imaginative. Further, the interest of boys in informative types of non-fiction is almost four times as strong as that of girls.

When considering the children's reasons for the choice or rejection of a book, the following comments are of interest:

¹ Sheffield City Libraries, 1938.

The physical attraction of books was a strong incentive to choice, particularly among boys. It is clear, too, that adult influence on children's reading is not nearly so important as the recommendations of other children. The effect of the films and radio on book choice was negligible. The reasons generally given for not liking books were that they are "dull," "uninteresting" or "too hard." Finally, it is clear that "purposive" reading is not common among children.

7 REPORT ON DEFECTIVE HEARING

The Report¹ of the Committee appointed by the Board of Education "to inquire into and report upon the medical, educational and social aspects of the problems attending children suffering from defects not amounting to total deafness" is of particular interest, since it introduces a new system of classification. According to the Education Act of 1921, "the expression 'deaf' means too deaf to be taught in a class of hearing children in an elementary school." To discourage the use of vague terms, such as "partially deaf" and "hard of hearing," the new system is described in detail, and its acceptance by education authorities is urged. Briefly, "Grade I" children require medical attention only and, apart from that, need no help in school. Children classed as "Grade II"—who form the subject of this report—are further subdivided into "Grade IIA" and "Grade IIB." Those in "Grade IIA" need some help, but can get on in ordinary schools if they sit in a position in class favourable for hearing and seeing, learn to lip-read and use auricles when necessary. Those in "Grade IIB" should be sent to Special Schools to have specialised teaching with the aid of electrical amplifiers, so as to make use of such hearing as remains and to have any speech defects removed. "Grade III" children are so deaf that they should attend schools for the totally deaf. The best methods of determining into which grade to place a child, by considering his hearing, his speech, his language and other factors, are discussed. Recommendations are made for the training of teachers for children in Grades IIB and III.

The scientific methods of measuring hearing in "decibels" by audiometers, and the use of hearing aids by children, are fully described. The hearing of children in large numbers—as many as forty at a time—can be tested with a gramophone audiometer which speaks numbers in a progressively fainter series, which the children write down as long as they can hear them. Children who fail in this test should then be examined singly by an aurist with a puretone audiometer to find out the character of their defect. Whisper tests are not advised.

Children with seriously defective hearing in Special Schools should have electrical amplifiers in their classes, so that they can hear the teacher's voice better. For children not so seriously handi-

¹ H M Stationery Office, price 2s 8½d post free

capped, who remain in elementary schools, auricles—a type of non-electrical hearing aid—are recommended. An experiment was undertaken in Newcastle to see if children would benefit by wearing these auricles and to find if they objected to them on their heads. Most of the children benefited exceedingly in their school work and there were no ill-effects, while some children brightened up and changed their whole outlook when they could hear better.

8 WELSH ACT REPORT FOR 1937

A Report by the Board of Education on the schools established under the Welsh Intermediate Education Act is published annually by the Board. The present Report, published by H. M. Stationery Office, price 4d., deals with the work of the schools during the year 1937. So far as the tables contained in the Report are concerned, the information provided is on the same lines as in previous years. The Report reveals the tendency in Wales for the age of admission to secondary schools to be later than is the case in England. Whereas approximately 38 per cent. of the pupils who entered the secondary schools in Wales during the year 1936-7 were between 11 and 12 years of age, no less than 44.8 per cent. were between 12 and 13. It may, however, be mentioned that during the past three years there has been an increase in the percentage of pupils admitted to the schools under the age of 12.

Secondary Schools and Senior Schools

A chapter of the Report is devoted to post-primary education in Wales. It contains a brief history of the establishment of the secondary school system in Wales, and mentions that at the present time approximately one-quarter of the total number of children in the public elementary schools of Wales and Monmouthshire who are now approaching the age of admission to secondary schools may expect to enter such schools. The question whether any further increase of accommodation in the secondary schools should be looked for is discussed. The Report explains that while in Wales a liberal education has always been valued for its own sake, part of the demand for secondary education is undoubtedly due to the desire of parents that their children should have an opportunity of entering occupations which are attractive and lucrative.

But although only a few years ago the possession of a school certificate enabled the majority of children leaving the secondary schools of Wales to find suitable posts, the value of the certificate for this purpose diminished as the numbers gaining it increased.

For children who will not normally stay at school beyond the age of 15 years, the senior schools which are being established at the present time can give a very valuable alternative form of post-primary education. The Report emphasises the importance that children should be transferred to these schools as soon as possible after reaching the age of 11, so that the school course may be planned

to cover a period of four years. It is important that during the first year of their course in the senior schools children should not be concentrating on preparation for the Secondary School Entrance Examination, and it is consequently important that the age of transfer to the senior school should correspond with the age of transfer to the secondary school. Reference is made in the Report to the practice of some of the local education authorities in this respect.

The School Certificate Examination

The general practice in Wales appears to be for children to attempt to take the School Certificate Examination after a four-year course or even less. For many children this involves physical strain, and the need for reaching high standards in the many subjects required for examination purposes renders it difficult for the schools to give adequate attention to physical training, art, music and handicraft, as well as to social and cultural activities outside the normal curriculum. A five-year course instead of a four-year course would do much to ease the strain on teachers and pupils and to secure for the latter improved health of body and a wider mental outlook when the time comes for leaving school.

The Danger of Examination Competition

Reference is made to the existing arrangements for the examinations qualifying for admission to the secondary schools, and it is suggested that the machinery employed should be thoroughly overhauled. It is pointed out that in the last few years examinations in general, and Special Place Examinations in particular, have been subjected to a good deal of investigation and criticism, and that some of the books on the subject might receive careful consideration. Emphasis is laid on the importance of doing everything possible to prevent the examinations from damaging the work of the primary schools. The use of various methods of classifying children in these examinations is discussed, including intelligence tests and head teachers' reports. The practice of some local education authorities of publishing lists giving the marks obtained by individual children and the schools attended is deprecated. It is undesirable that there should be any kind of open competition between schools for results.

9 STATE GRANTS AND EQUALITY OF EDUCATIONAL OPPORTUNITY

The Union Parliament of South Africa passed a resolution on February 19th, 1937. "That the Government be requested to consider the advisability of taking steps to establish a National Education Board for the purpose of co-ordinating educational matters, such Board in particular to devote its attention to the problem of the large number of children who leave school without having progressed beyond the primary school stage." The investigation undertaken by the Education Office resulted in two Memoranda on

the "Revised Basis of Provincial Subsidy" and "Provision for Differentiated Education for Adolescents" The memoranda have more than local significance for South Africa, and should be studied in close comparison with the chapters by Dr Hans published in this YEAR BOOK The memoranda come to the same conclusions as Dr Hans. It seems that both in this country and in South Africa the main stumbling-block to the establishing of an equality of opportunity for post-primary education lies in the antiquated system of State grants towards higher education In the South African system of grants, as in this country, the two factors of "need" and of "ability" were not duly considered The old system of capitation grants in South Africa, as the fifty-fifty system in this country, discriminated against the poorer and the rural areas, with the result that in rural areas with 129,175 pupils in primary grades, only 2,799 reached secondary grades, whereas in urban areas with 64,175 pupils in primary grades, as many as 23,019 reached secondary grades The memorandum recommends a new basis of State subsidy, which would take into consideration the "ruralness" of the area and the taxable income of individuals and companies The similarity of problems and of suggested remedies once more proves the necessity for the interchange of information and ideas between the members of the British Commonwealth, and the value of comparative study

10 THE SEVENTH INTERNATIONAL CONFERENCE ON PUBLIC EDUCATION

The Seventh Conference on Public Education took place from the 18th to the 23rd of July, 1938, at the headquarters of the International Bureau of Education in the "Palais Wilson," Geneva The following three recommendations were adopted :

(a) The Salaries of Elementary School Teachers

Beating in mind that the elementary school teacher should have access to satisfactory living conditions, for himself and his family, corresponding to his social status and also to the services which he renders,

That he cannot devote himself to his important mission with the necessary freedom of mind if he is preoccupied by constant material cares,

That he should receive a salary enabling him to maintain his dignity and his good state of mind,

The Conference submits to the Ministries of Public Instruction in the various countries the following recommendation

(1) Whatever may be the legal position of elementary teachers, whether officials of the State, the provinces or the municipalities, the conditions of work should be such that, having given the necessary evidence of character, qualifications and aptitudes, the

teacher should be assured of employment for a sufficient length of time and should not be liable to be dismissed except for serious misdemeanour and after judicial inquiry ,

(ii) Taking into account the financial position of the country, teachers of all types should receive a salary corresponding to the importance of their mission, sufficient to avoid the risk of placing them in a position of inferiority by comparison with categories of employees or of manual workers of a corresponding social level ,

(iii) In principle, and except in special circumstances, the basic salaries of any one category of teacher should show no marked differences within a country . In particular, it would seem desirable that there should be no difference between the salaries of men and women teachers ,¹

It is legitimate to establish differences corresponding to differences of qualifications or of functions, for example, teachers in higher elementary (senior) schools, in continuation schools, or in special schools for abnormal or delicate children, also headmasters and headmistresses of elementary schools, by reason of their qualifications or the greater difficulties of their task, should receive higher salaries or supplementary payments . But, when the hours of service are comparable, infant school mistresses, whose teaching has made such remarkable progress of late years, should have the right to the same salary as other types of elementary school teachers ,

(iv) In fixing the salary of urban teachers and of rural teachers, account should be taken on the one hand of the peculiar conditions in towns (high cost of rents and of living), and on the other hand of the material difficulties of rural teachers and of the expenses to which they are liable, for example, in the education of their children, and in the provision of medical aid, etc . These expenses should be compensated by special allowances (for housing, or if necessary for lodging, high cost of living, scholarships for their children's studies, etc) ,

(v) It appears necessary that student teachers should enjoy a salary at least sufficient to meet the cost of living and of study—or a scholarship equal to these charges . Probationary teachers should receive a salary which allows them a tolerable standard of living, pending the time when they will acquire a regular teaching qualification ,

(vi) It is desirable that a special allowance, proportional to their expenses, should be made to teachers having family responsibilities ,

(vii) Apart from promotion to a higher grade which may be obtained by the acquisition of fresh university qualifications, by competition or selection, teachers should receive, within the grade to which they belong, increments on ground of seniority or selection . The commencing salary in any grade should not present too great a contrast with the maximum of the grade , moreover, increments should occur with sufficient frequency to ensure that the

¹ The question of equal economic responsibilities would not appear to have been considered (General Editor)

maximum can be reached before retirement, and that the pension may be calculated on this maximum,

(viii) Teachers can legitimately associate with their ordinary professional work, outside paid employment. It is desirable that they should be willing to undertake post-school courses, and should take an active part in extra-curricular activities, at the same time and subject to appropriate safeguards, they can properly undertake individual coaching or organise the paid supervision of homework. But they should not be permitted to engage in occupations which are completely alien to their mission and which might threaten to compromise their moral authority,

(ix) The number of hours of teaching per week for teachers should be settled in such a way as not only to allow them to prepare themselves thoroughly for their class work, but also to afford them an opportunity for reading, for intellectual interests and for the relaxation necessary to those engaged in education. In any case, it appears necessary that the number of hours should not exceed thirty,

(x) The members of the elementary school staff ought to be entitled to leave of absence with pay, in respect of illness or maternity, comprising more lengthy periods of leave of absence in special cases, they must equally be assured of a sufficient pension obtainable in good time, and, if eventually necessary, of a pension for their widow and children under age,

(xi) Except for serious fault on his part, the teacher ought to feel insured against the consequences of accident which may happen to his pupils, whether in class or in the course of exercises or scholastic excursions. It is therefore desirable that, in every country, the legal responsibility for such accident should rest upon the employing authority, which, however, should reserve the right of recovery from the teacher in the case of grave fault on his part,

(xii) It is desirable that the competent authorities should satisfy themselves that teachers employed in private schools enjoy adequate material conditions.

(b) The Teaching of Classical Languages

Considering that the object of education is to secure, not only the acquisition of useful practical knowledge, but also, and especially, the formation of the moral, intellectual and artistic sense in the highest possible degree,

That the conditions of modern life render this formation more and more necessary in order to ensure a proper balance of our faculties and our tastes,

That the most certain way of assisting the self-development of the child both at school and in later life is doubtless to instil in him, alongside of intellectual activity and the sense of reality, qualities of judgment and an inquiring mind as well as a refined taste, that

the ancient humanities possess a particular educative value in this respect,

That all peoples have a major interest in understanding the civilisations which have exercised an influence on their own and particularly those from which their own civilisation has emerged,

That this knowledge of former civilisations may be acquired by the study of their art and literature, that the latter can only be intimately understood by direct contact with the texts,

The Conference submits to the Ministries of Public Instruction of the various countries the following recommendation

(i) So far as is consistent with the study of modern literature and civilisation, on the one hand, and of scientific studies on the other, a sufficient place should be given to the study of the civilisations which have exercised a marked influence on the countries concerned. For all the countries which identify themselves entirely or partially with Western civilisation an important place should be given to the studies of the ancient civilisations and, more particularly, to those of Greece and Rome,

(ii) This study should not confine itself to the art and civilisation as they are to be found expressed in monuments, it implies equally an understanding of the modes of feeling and thought which find expression in the written works, moreover, by their qualities of order and proportion as well as by the precise understanding of human nature which they afford us, the literatures of Greece and Rome remain incomparable instruments of education,

(iii) It is desirable that contact with the parent civilisations should be established in particular by direct reading of the texts, which alone permits of a complete comprehension of these. Accordingly an important place ought to be assured in countries of Western civilisation to the study of Greek and Latin,

(iv) On account of the special educative value of this study in the development of qualities of order, clarity, logic and analysis, it seems imperative that a prominent place should be assured to it in the training, not only of future teachers, but to the greatest extent possible of the pupils of secondary schools, girls as well as boys,

(v) The study of classical languages, particularly by exercises of a grammatical order, can contribute to the training of the mind, but the main concern should be the understanding of ancient thought and civilisation and the comparison with modern civilisations,

(vi) To allow of sufficient contact with those literatures, it is desirable to supplement the direct study of the text by the reading of translations, interlined or entirely in a modern language,

(vii) In the course of the study of the classical languages, it is highly desirable to take into account the active methods which the teaching of modern languages has so usefully brought into play. One would thus avoid a too formal and abstract teaching, and take count of such interests of the child as are manifested in the course of his mental development,

(viii) In determining the age at which it is useful to approach the study of classical languages, it is important to take account, not only of the mental range of the child, but also of the necessary co-ordination with other branches of teaching,

(ix) It would be desirable that the pronunciation of Latin should be as far as possible unified according to modern linguistic discoveries

(c) The Drafting, Use of and Choice of Textbooks

Being in mind that the spoken word of the teacher ought to remain the essential and living element of the lesson,

That the active methods distinguishing modern teaching appeal above all to the spontaneity of the child, to the development of his faculties of observation and reasoning, and demand direct contact as often as possible with actual objects, tending thus to lessen the relative importance of the textbook,

That, nevertheless, the textbook remains for all subjects, not only a valuable guide and an occasional aid, or a means of verification and revision, but indeed an indispensable auxiliary,

That the educational authorities should ensure that it serves its purpose in the best possible manner,

The Conference submits to the Ministries of Public Instruction of the various countries the following recommendation

(i) School textbooks should fulfil definite requisites in three fields *pedagogical* (scientific bases and methods), *technical* (appearance and make-up), and *economic* (purchase price),

(ii) In countries where education is directed or controlled by the State, it is for the State to take proper measures to ensure the improvement of textbooks and to supervise their application. This duty will fall, in other countries, on the authorities responsible for the schools,

(iii) Commercial competition between authors and publishers being liable to result in lowering the quality of the books,¹ it may be in the general interest that the official authorities should take all useful measures to ensure the publication of textbooks for the elementary classes, prepared on sound pedagogical lines, well printed and inexpensive. These considerations have particular weight in relation to textbooks prepared for very young children and to reading books,

(iv) In those countries where there is control by the authorities, it is preferable that this control should be exercised before the

¹ It is difficult to understand how the Conference came to this extraordinary conclusion. In Great Britain and the United States of America, the progress of textbook production under conditions of private enterprise has been phenomenal. Competition, rather than lowering the quality of books, has led to the employment of the world's best authors and of improved methods of production which are, generally speaking, far in advance of conditions in countries where textbooks are controlled or produced by a Government or local authority (General Editor)

printing of the textbooks and that the selection committee should comprise, not only inspectors and officials of the Ministries, but school teachers, chosen from amongst those most competent,

(v) It is desirable that the conditions governing the approval of textbooks should be specified by official regulations and that attention should be directed, above all, to scientific background and teaching methods. It is understood, of course, that the textbooks should conform to the official programmes, where such exist, that they should not contain anything conflicting with State institutions and that they should endeavour to harmonise the principles on which the national life is based with those of humanity,

(vi) To prevent the drawbacks of too frequent changes of textbooks and the harmful consequences for the pupils which would result, it is desirable ¹

(a) That the number of textbooks approved by the official authority should be limited in each branch and class,

(b) That the approval given should hold good for a sufficiently long period,

(c) That the number of textbooks used in any one class should not be too great, especially in primary schools,

(d) That there should not be too many changes of text from one edition to another of a particular textbook, at least unless they are justified by sufficient reasons,

(e) That endeavour be made, as far as possible, to assure collaboration between the local education authorities, in order that pupils changing their schools should not be obliged to provide themselves each time with new textbooks,

(f) That the right of the teacher to choose the textbook to be used, according to his conceptions or his pedagogical preferences, should be restricted by the approval or the ratification of the competent Committees,

(vii) It is desirable that school textbooks should be relieved of charges or taxes that would result in an increase in price. On the contrary, it is desirable that they should be accorded beneficial treatment as regards the conditions of circulation—carriage, postage rates, etc.,

(viii) Where the State itself undertakes the publication and distribution of the books, it is desirable to secure as far as possible their free distribution, particularly to necessitous children,

(ix) The purpose of the textbook being simply that of a guide and of an auxiliary, it is desirable to leave to the teacher a certain liberty in its use within the limits of the curriculum,

¹ The whole of this recommendation should be carefully studied by those who still profess a belief in democracy and that the best results in education are obtained where the maximum of freedom is granted to the teacher. If this clause were put into operation, teachers would soon be restricted to prescribed syllabuses, to the use of textbooks approved by official authority and kept in service until "economy" allowed a change. This tendency to restrict the freedom of teachers was dealt with in the *YLAR BOOK OF EDUCATION*, 1938, pages 35-6 (General Editor)

(x) To facilitate the methodical employment of the textbook by teachers, one might usefully publish for their use special books of reference, or of teaching matter, or again interpolate in the next issue of schoolbooks a certain number of explanations and annotations,

(xi) It is desirable that each school establishment, or at least the school centre of each locality, should possess for the use of the teachers a library containing the different school textbooks in each branch and in each grade (standard), in order to afford a good choice of books and useful experimentation of various methods ¹

II INSPECTORS OF SCHOOLS AND THE WRITING OF TEXTBOOKS

The policy of the Board of Education regarding the writing of school textbooks by His Majesty's Inspectors is quite definite. The Board's rule states clearly that an Inspector who contemplates publishing, anonymously or otherwise, any textbook for use in schools, or any article in an educational journal, is required, before publication, to obtain official sanction. As a rule, sanction would not be given for the publication of a textbook. In no case is an Inspector allowed to add his official title to his name as the author of any publication whatever.

In the case of Inspectors or Directors of Education employed by local education authorities and, indeed, other officials, no such ban has been imposed. Now, however, the London County Council has decided to impose such a ban upon future Inspectors when they enter its service. Naturally, L.C.C. Inspectors will feel a sense of grievance that they should be singled out for this treatment when their colleagues under other authorities are left free to write as they think fit.

The writing of school textbooks for profit by Government or local officials at home and in the Dominions and Colonies raises a question of considerable educational importance, and would appear to be an appropriate subject for serious consideration. The present position, accentuated by the action of the L.C.C., is obviously unsatisfactory. A question that might be discussed with advantage

is
To what extent are teachers influenced in their choice of textbooks by the fact that any given series has been compiled by an official? If they are, is this desirable?

¹ If the above recommendations were put into operation, it is difficult to see what room is left for experimentation (General Editor)

PART TWO

Statistics in the British Commonwealth of Nations, the U.S.A. and Europe (Summary Table)

SECTION ONE

SURVEY OF STATISTICS ENGLAND AND WALES

(See also YEAR BOOK, 1938, pages 37-64)

I. The Progress of Reorganisation

IN this volume of the YEAR BOOK we give a separate chapter (see pages 128-39) on the regional progress of reorganisation. Here we give only the usual comparison for the last five years. During the twelve months ending March 31st, 1937, 793 departments were affected by schemes of reorganisation, and during the nine months ending December 31st, 1937, a further 676 departments were included in the schemes. The following table shows the rate of progress during the last five years.

YEAR ENDING	SENIOR DEPARTMENTS			JUNIOR DEPARTMENTS				PERCENTAGE OF THE TOTAL NUMBER OF PUPILS 11 AND OVER TO ALL PUPILS 11 AND OVER
	NUMBER	NUMBER OF PUPILS 11 AND OVER	PERCENTAGE OF TOTAL PUPILS 11 AND OVER	NUMBER	NUMBER OF PUPILS 8-12	PERCENTAGE OF TOTAL NUMBER OF PUPILS 8-12	NUMBER OF PUPILS 11 AND OVER	
March 1933	2,344	699,077	34.7	5,686	855,549	34.7	120,689	48.8
" 1934	2,612	800,661	39.1	5,992	913,039	38.5	129,103	53.2
" 1935	2,744	792,474	41.3	6,215	942,871	40.0	129,782	56.0
" 1936	2,864	794,972	43.6	6,553	967,769	43.0	132,225	59.0
" 1937	2,962	805,335	45.9	6,937	998,979	46.0	133,025	61.5

In addition, 1,400 of the all-age departments contained "senior divisions," providing a separate course of instruction for all pupils over 11, and educating approximately 140,000 senior pupils.

The next table shows the contrast between reorganisation in rural and urban areas, and also between council and voluntary schools by the number of pupils, including those in separate infant departments and reorganised senior divisions of all-age departments.

SCHOOLS	URBAN	RURAL	COUNCIL	VOLUNTARY	TOTAL
Reorganised	3,222,426	322,045	2,775,519	768,952	3,544,471
Unreorganised	1,007,883	571,136	776,100	803,919	1,579,019
Percentage of reorganised to Total, 1937	76.2	36.1	78.1	49.0	69.2
In 1936	74.0	34.6	76.0	47.1	67.0
In 1935	72.0	32.6	73.8	45.1	64.8

The expected acceleration of reorganisation in voluntary schools in consequence of the Act of 1936 did not take place—the Church of England schools have added only three new senior departments (total 263) and the Roman Catholics also three (total 90) during the year. Other voluntary schools lost one senior department (total 11).

II Redundant Schools and the "Black List"

Since 1930 the following number of redundant schools and departments have been closed year ending March 31st

	1930-1	1932	1933	1934	1935	1936	1937	NINE MONTHS TO DEC 31st 1937	TOTAL
Schools Closed	152	120	213	163	110	107	112	115	1,092
Departments Amalgamated	—	186	139	244	141	114	122	131	1,077

The position of the "Black List" on September 30th, 1938, was as follows

CLASSIFICATION ¹	COUNCIL SCHOOLS				VOLUNTARY SCHOOLS				TOTAL			
	A	B	C	TOTAL	A	B	C	TOTAL	A	B	C	TOTAL
I Original Totals	219	346	160	714	400	1,421	232	2,113	679	1,760	382	2,827
II Removed from List on September 30th, 1938												
(a) Closed or Replaced	150	69	12	231	189	116	22	326	339	181	31	557
(b) Defects Removed	14	223	91	328	118	780	111	1,009	191	1,002	202	1,395
(c) Total Removed	164	291	103	558	307	896	133	1,336	530	1,183	233	1,965
Percentage of Original Total	83.1	81.3	68.7	82.2	75.4	63	57.8	64.6	78.1	67.2	61.8	69
III Still on "Black List" ²	47	148	63	258	86	413	88	617	133	601	161	876
IV Number in (III) in respect of which plans for reconstruction or replacement have been approved	7	11	4	22	21	62	6	89	28	73	10	111

¹ A—Very worst cases where improvement is very seldom possible

B—Considerable expenditure needed to effect improvement

C—Unsuitable for present accommodation, but might be adapted to smaller numbers

² These figures (other than the grand total) do not agree exactly with the difference between I and II (c), since the original categories have been changed in certain cases, and some voluntary schools have transferred to L.F.A. since the issue of the "Black List"

III The Educational Ladder

During the year ending March 31st, 1937, 347,096 boys and 334,024 girls left the public elementary schools. The following table shows the number and percentage of total leavers who proceeded to some form of full-time further education.

PUPILS BY SEX	GRANT AIDED SECONDARY SCHOOLS	JUNIOR TECHNICAL AND OTHER SIMILAR INSTITUTIONS	OTHER FULL TIME INSTITUTIONS	TOTAL
<i>Boys</i>				
(a) Number	41,806	10,293	7,966	60,065
(b) Percentage	12.0	3.0	2.3	17.3
<i>Girls</i>				
(a) Number	36,270	5,855	8,707	50,832
(b) Percentage	10.8	1.8	2.6	15.2

These figures are for England and Wales combined, but for Wales alone the percentages of boys and girls proceeding to some form of full-time further education are much higher, 26.9 for boys and 25.8 for girls. In a separate section of this volume we give detailed tables of regional variation in England and Wales. The comparison of figures for the last three years shows a regular and considerable increase of pupils proceeding to Junior Technical and similar schools.

BOTH SEXES	SECONDARY SCHOOLS	JUNIOR TECHNICAL	LEFT FOR OTHER FULL TIME INSTITUTIONS	TOTAL
1934-5	75,281	11,656	17,070	104,007
1935-6	74,960	12,957	17,690	105,607
1936-7	78,076	16,148	16,673	110,897

IV Infant Departments and Nursery Schools

The number of infant departments continues to fall, owing to the declining birth-rate. Twenty-three departments were closed and sixty-six amalgamated with junior departments. As thirty-one new departments were opened, the total decrease was from 6,039 to 5,981 departments. The policy of the Board is still to encourage the opening of separate departments wherever circumstances warrant it. The number of nursery schools recognised by the Board of Education increased by thirteen to a total number of ninety-two (forty-two L.E.A.'s) with accommodation for 7,025 children. In addition, forty-nine proposals, of which thirty-four were from local education authorities, were under consideration. It is evident that L.E.A.'s at last began seriously to consider the necessity for nursery schools.

V The Length of School Life

The improvement in the lengthening of school life in public elementary schools was maintained. We give the figures for the last three years.

	TOTAL LEFT FOR FURTHER EDUCATION	LEFT FOR OTHER REASONS				TOTAL LEFT FOR EMPLOY- MENT	TOTAL LEFT FOR REASONS OTHER THAN EMPLOY- MENT
		UNDER 14	14 TO 14 3/4 YRS	14 3/4 YRS TO 15	15 AND OVER		
1934-5	15.7	9.5	58.2	12.6	3.4	84.3	1.0
1935-6	15.7	10.0	57.9	12.1	4.3	84.3	0.9
1936-7	16.3	10.1	58.6	10.7	4.3	83.7	0.8

The second column includes pupils who left at the end of the term preceding the holiday period during which they became 14.

VI Voluntary Elementary Schools

The development of voluntary schools shows the same features noticed in the YEAR BOOK previously. The Church of England schools continue to decrease, whilst the number of Roman Catholic schools continues to increase. The fall in the number of pupils in all schools is largely due to the decrease in birth-rate. The following table shows the tendency during the last six years.

YEARS	CHURCH OF ENGLAND		ROMAN CATHOLIC		OTHER VOLUNTARY SCHOOLS	
	SCHOOLS	AVERAGE NUMBER ON REGISTERS	SCHOOLS	AVERAGE NUMBER ON REGISTERS	SCHOOLS	AVERAGE NUMBER ON REGISTERS
1932	9,501	1,381,823	1,200	388,382	376	60,037
1934	9,268	1,332,717	1,215	401,952	345	54,973
1935	9,197	1,273,226	1,230	393,652	339	52,142
1936	9,138	1,222,270	1,241	388,186	321	48,740
1937	9,068	1,172,880	1,252	380,218	311	45,767

With the exception of thirteen Jewish schools, "Other voluntary" schools are gradually disappearing. The Church of England losses are mainly the redundant small rural schools or schools on the "Black List". In a few years all these small schools will be closed, and it is possible that a further decrease in Church schools will be stopped. That the Church of England continues to found new schools every year shows that there is no possibility of wholesale transfer to the L.E.A.

VII Grant-aided Secondary Schools

The number of grant-aided secondary schools continues to increase by including recognised efficient schools in the Grant List. Thus gradually the independent schools come within the orbit of the State system. The number of pupils increased from 463,906 on March 31st, 1936, to 466,245 on March 31st, 1937, and to 484,676 on October 1st, 1937. It must be noted that October figures are always larger than the March figures. 81.3 per cent of the pupils admitted during the year had come direct from public elementary schools, and of these 55.2 per cent were admitted as free pupils and 10.2 per cent as pupils, paying partial fees. In a separate section we give detailed figures for secondary schools by regions. The further occupation or education of pupils who left secondary schools during the year ended July 31st, 1937, can be seen from the following table.

DESTINATION OF PUPILS	ENGLAND AND WALES			WALES		
	BOYS	GIRLS	BOTH SEXES	BOYS	GIRLS	BOTH SEXES
1. Number who left after reaching the Age of 12 Years	19,081	41,060	60,141	5,526	4,881	10,411
2. Number who left after reaching the Age of 14, otherwise than to attend other Secondary Schools	16,809	39,090	55,901	5,313	4,082	10,121
3. Percentages of Pupils included in Column 2, who	%	%	%	%	%	%
(a) Entered Universities	5.3	2.0	1.3	7.1	1.7	0.5
(b) Entered Training Colleges	1.3	5.6	3.2	2.2	7.9	4.8
(c) Entered other Educational Institutions	5.6	17.4	10.9	6.6	19.8	9.5
(d) Became Teachers (Uneducated, etc.)	0.1	1.9	1.0	0.1	2.6	1.4
(e) Entered a Professional, Commercial or Clerical Occupation	18.1	40.6	41.2	31.5	28.8	30.3
(f) Entered an Industrial or Manual Occupation	17.6	10.2	19.7	50.0	18.0	27.0
(g) Entered an Agricultural or Rural Occupation	2.5	0.6	1.6	3.1	0.8	2.0
(h) Remained at Home	0.1	8.9	1.1	0.6	17.1	8.5
(i) Left for other Reasons	1.6	3.0	2.8	3.1	3.7	3.0
(j) No Reason being stated	12.3	8.6	10.6	9.2	6.0	8.0

The figures under 3 (a) relate only to pupils who left during the school year, and do not include pupils who proceeded to a university after an interval.

By comparing this table with the table for 1936, we notice the decrease in percentages of pupils who entered universities, training colleges and other educational institutions. Although the decrease is only 0.6 per cent, it is significant. The fall in percentages is also noticed in entrance to professional and commercial occupations, but a substantial increase is shown in the percentage of pupils, especially girls, who entered industrial or manual occupation.

VIII Independent Secondary Schools

Seven new schools were added to the list of schools recognised by the Board as efficient. Oundle and four other foundation

schools were added to the List 60 and inspected by H M Inspectors. Of the schools represented on the Headmasters' Conference, only ten (not counting the Royal Naval College) are not yet inspected by H M Inspectors. These are Rossall, Uppingham, Epsom, Mercer's, St Paul's, Weymouth, Llandoverly, and four Roman Catholic colleges—Stonyhurst, Douai, Downside and Ampleforth. The number of other foundation schools is continually decreasing, as each year some of them are added to List 60.

IX. The Number of Pupils in all Schools, including Private Schools

We repeat on page 36 the table given last year. The changes in elementary education are entirely due to changes in the distribution of age-groups. In post-primary education we notice a considerable increase in the age-group 16-17 (from 166,000 to 219,000 pupils).

X. Schools Outside the Board of Education System

In addition to the three fighting services, which are not included in our review, there are no less than eight central departments, besides the Board of Education, which have either schools of their own, or subsidise other schools out of their budgets.

(a) Ministry of Health

The Ministry of Health makes grants for the training of midwives and health visitors, and gives block grants to local authorities, part of which is used for educational services. The Poor Law Schools are still under the official administration of the Ministry, although in practice the majority of them are administered by local education authorities and inspected by H M Inspectors. Their number decreases every year, and in 1937 there remained only twenty-two such schools, with 3,364 pupils. They will be gradually absorbed into the general system.

(b) Ministry of Agriculture and Fisheries

In a separate section we give a detailed account of the schools under the Ministry. In addition, the Ministry of Agriculture makes grants to universities and colleges, and includes in its budget a substantial sum for agricultural research.

(c) Home Office

The Home Office has a special system of schools for delinquent children. The fifth report, issued after a ten-years interval in 1938, gives a detailed account of the working of the system. There is a continuous increase in the number of children committed by courts to Home Office approved schools. This, however, is the result of a wider application of the Act, 1933, and not due to the increase in number of offences. The table on page 37 shows the character of cases sent to approved schools in 1936.

DISTRIBUTION OF PUPILS BY AGES OF PUPILS AND TYPE OF SCHOOLS

In 000's, March 31st, 1937

AGES	ESTIMATED POPULATION	PUBLIC, ELEMENTARY AND OTHER	GRANT AIDED SECONDARY	EFFICIENT NOT AIDED	ROMAN CATH. CHURCH IN DEPENDENT	VOCATIONAL		AGRICULTURE, DOMESTIC, JUVENILE CENTRES	TOTAL ASCERTAINED FIGURES	ESTIMATED IN PRIVATE SCHOOLS	PERCENTAGE OF PUPILS IN PRIVATE SCHOOLS
						DAY	EVENING				
3-4	545	37	—	—	—	—	—	—	37	2	7
4-5	558	126	—	—	—	—	—	—	126	3	25
5-6	578	476	1	—	—	—	—	—	478	30	90
6-7	590	549	2	1	1	—	—	—	553	36	100
7-8	592	545	3	6	3	—	—	—	557	35	100
8-9	593	549	4	6	3	—	—	—	562	31	100
9-10	597	550	7	7	3	—	—	—	567	30	100
10-11	613	567	12	6	3	—	—	—	588	25	100
11-12	629	553	45	11	5	—	—	—	614	15	100
12-13	641	523	80	13	6	2	—	—	624	15	100
13-14	658	531	84	12	6	5	41 ¹	—	639	10	100
14-15	681	159	79	9	5	30	133	11	426	10	64
15-16	728	20	73	9	4	24	115	11	256	9	36
16-17	770	3	48	9	4	21	124	10	219	6	24
17-18	738	—	19	6	3	16	69	10	123	4	18
18-19	587	—	7	1	1	9	50	2	70	4	14
19-21	1,138	—	2	—	—	13	81	2	93 ³	13	10
3-21	10,885	5,183 ²	466	97	47	122	613	46	6,574	280	67

¹ Duplicates

² The average number on registers—5,240,000

³ Plus 55,000 in universities and training colleges

REASON FOR ORDER	BOYS	GIRLS
Breaking and Entering	829	18
Larceny, etc	1,693	194
Forgery, etc	61	4
False Pretence, etc	19	6
Malicious Damage	32	1
Robbery, Assault	18	1
Sexual Offences	58	1
Small Offences	100	4
Unsatisfactory Home	133	199
Beyond Control	178	93
Manslaughter	1	—
Non-compliance with School Attendance Order	118	13
Other Unsatisfactory Circumstances	48	37
Total	3,188	571
	3,759	

The results of the training may be seen from tables giving total numbers of leavers for the years 1928-33 who were at least three years under observation. About 80 per cent of leavers showed satisfactory records during the three-year period.

(d) *Ministry of Labour*

The Centres for Juvenile Unemployed, made compulsory in 1934, are maintained by local authorities with grants (up to 75 per cent) from the Ministry of Labour. Under an agreement with the Board of Education the centres were inspected in 1936 by H M Inspectors jointly with the officers of the Ministry of Labour. The following tables give the particulars.

(i) *Total Number of Individuals who attended at any time during the Week ended November 24th, 1937*

England	16,090	Scotland	8,534
Wales	3,808	Great Britain	28,432

(ii) *Average Daily Attendance during the Week ended November 24th, 1937*

	BOYS	GIRLS	TOTAL
England	7,104	5,627	12,731
Wales	1,896	1,244	3,140
Scotland	3,926	3,062	6,988
Great Britain	12,926	9,933	22,859

(e) Forestry Commission

There are a few forestry schools, maintained and administered by the Forestry Commission

(f) The Treasury

The Treasury directly maintains a few educational institutions abroad (schools at Athens and Rome), and makes grants to museums, libraries and scientific societies. Indirectly and through the University Grants Committee, the Treasury subsidises higher education in Great Britain

(g) Ministry of Pensions

This Ministry administers the King's Fund for the education of war orphans, and makes grants for that purpose

STATISTICS . ENGLAND AND WALES

TABLE 1

SURVEY BY INSTITUTION, SEX, AGE AND NUMBER OF PUPILS, 1937

AGE-RANGE	POPULATION ESTIMATED MARCH 31st, 1937	PUBLIC ELEMENTARY SCHOOLS (LOCAL AUTHORITIES)										CERTIFIED SPECIAL SCHOOLS		GRAND TOTAL				
		INFANTS		JUNIOR DEPTS		ALL AGE DEPTS		SENIOR DEPTS		TOTAL		SPECIAL SCHOOLS		BOARD OF EDUCATION ¹		MINISTRY OF HEALTH		HOME OFFICE APPROVED SCHOOLS
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	
3-4	545,000	13,667	12,951	1,576	1,817	1,690	1,574	—	—	17,243	16,372	285	261	84,155	80	—	—	—
5-6	508,000	47,894	44,864	8,371	7,856	8,379	7,851	—	—	61,549	60,249	273	273	156,405	114	96	—	—
7-8	576,000	129,810	124,901	44,234	42,078	38,413	37,210	8	6	212,484	201,896	1,793	1,723	476,844	133	88	—	—
9-10	529,000	117,938	114,386	34,629	33,318	30,393	29,055	13	12	177,581	169,266	1,779	1,669	344,197	163	90	10	10
11-12	538,000	20,829	19,674	146,090	141,787	140,693	136,576	40	37	277,918	268,398	2,419	2,188	545,594	130	155	—	—
13-14	597,000	772	744	149,639	145,600	134,301	130,829	917	772	279,659	268,048	2,083	1,838	545,375	121	150	36	36
15-16	613,000	68	66	144,151	142,014	132,153	129,862	6,280	6,149	282,617	277,761	3,215	2,715	566,964	135	138	733	96
17-18	629,000	8	11	105,956	64,712	131,673	129,486	77,429	76,128	276,946	270,467	3,493	2,744	562,888	179	117	—	—
19-20	641,000	6	6	828	760	131,378	130,868	136,738	131,049	268,948	266,289	3,410	2,847	274,004	216	138	—	—
21-22	681,000	1	2	291	286	122,766	122,028	138,687	128,883	261,805	261,204	3,373	2,874	168,308	160	132	1,632	282
23-24	728,000	—	—	89	81	82,679	82,676	4,319	4,432	7,987	7,717	2,874	2,120	168,308	160	132	1,180	246
25-26	770,000	—	—	1	1	1,104	1,429	6,113	7,890	7,227	8,823	1,666	1,458	19,748	83	17	1,045	266
27-28	770,000	—	—	—	—	69	91	711	916	751	1,008	313	288	2,308	7	5	2,491	517
Total	8,775,000	538,719	513,044	696,510	650,515	943,309	926,600	410,235	409,002	2,593,116	2,534,374	27,882	22,809	5,179,782	2,026	1,888	7,179	1,445
Total	Both Sexes	1,056,756	1,377,320	1,377,320	1,377,320	1,860,778	1,860,778	819,431	819,431	5,133,490	5,133,490	50,791	41,897	3,364	3,364	—	8,624	—
1936		1,084,113	1,298,676	1,298,676	1,298,676	2,026,903	2,026,903	809,852	809,852	6,230,643	6,230,643	—	—	1,111	1,111	—	8,031	—

¹ Grand Total includes 1,106 pupils in Certified Efficient Schools and 4,805 pupils in Non Local Public Elementary Schools boys, 19,686, girls, 3,900 and Nursery Schools (Ages 5-6), 6,286 are not included

Efficient Preparatory Schools (Ages 6-14),

TABLE 1—continued
POST-PRIMARY

SECONDARY SCHOOLS				TECHNICAL AND ART										PREPARATORY EFFICIENT	GRAND TOTAL BOARD OF EDUCATION		
AGE-RANGE	GRANT AIDED MARCH 31st 1937		EFFICIENT NOT AIDED OCTOBER 1st 1937		FULL-TIME				PART TIME				EVENING				
	BOYS	GIRLS	BOYS	GIRLS	JUNIOR		SENIOR		DAYS CLASSES		DAY CONTINUATION		MALE			FEMALE	
					BOYS	GIRLS	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE					
Under 7	1 295	2 344															
7-8	1 582	1 860															
8-9	1 770	2 055															
9-10	3 189	4 970	8,860	8 401													
10-11	6 116	6 049															
11-12	23,217	21 819															
12-13	41 917	38 237			930	205											
13-14	44 310	39 592			3 914	1 073											
14-15	42 605	36 755			8 331	2 070	843	806	4 832	2 903	3 737	2 280	21 311	19 640	803	11-18	
15-16	39 818	33 515			6 213	2 835	1 069	1 129	5 282	1 752	2 946	3 167	70 409	57 278	121	762 977	
16-17	26 078	21 640			1 975	997	1 604	1 882	8 891	3 246	1 204	1 926	79 193	44 376	187		
17-18	18 049	8 914			249	81	1 165	1 332	5 943	1 739	355	596	44 667	24 583	—	16-21	
18-21	3 526	2 919					2 773	2 361	12 951	4 151	123	21	53 113	48 425	—	473 206	
21 over	1 430	837					2 372	1 245	15 976	21 042			109 248	266 660	—	478 548	
Total	248 244	220 001	36 310	36 911	21 511	8 250	9 716	8 735	53 875	34 983	8 354	11 000	543 399	508 056	19 688	3 900	1,768,663
	463,245			73 421	24 761			18 801	88,468		19,364		1,040,355		23,668		
Total Both Sexes	463 906			73 815	28,369			17,880	83 869		19 070		946 224		23 494		1,068 610

INSTITUTIONS		TEACHERS' TRAINING		UNIVERSITIES		Total	
MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Juvenile Unemployment Centres		Preliminary Training Colleges		Full time		3,760 men	
11,997	4,307	5,504	10,262	5,004	10,262	4,893	8,874
28,551	25,124	3,389	3,267	3,389	3,267	1,156	1,156
Adult Education Grant aided		Part-time Courses		Occasional		2,068 women	
		11,468	31 124			1 922	1 922
						37 788	11 952

TABLE 2—WALES
SURVEY BY INSTITUTION, SEX, AGE AND NUMBER OF PUPILS, 1937

AGE RANGE	POPULATION ESTIMATED MARCH 31ST 1937	PUBLIC ELEMENTARY SCHOOLS (LOCAL AUTHORITIES)										CERTIFIED SPECIAL SCHOOLS	GRAND TOTAL BOARD OF EDUCATION
		INFANTS		JUNIOR DEPTS		ALL AGE DEPTS		SENIOR DEPTS		TOTAL			
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS		
3-4	33,000	2,055	2,020	130	125	373	337	—	—	2,558	2,482	34	5,074
4-5	34,000	7,163	6,810	468	396	1,433	1,307	—	—	9,064	8,513	16	17,593
5-6	35,000	11,583	11,633	1,081	947	3,063	3,039	—	—	16,027	15,619	28	31,674
6-7	37,000	13,152	12,645	1,343	1,298	4,236	4,118	—	—	18,731	18,081	63	36,855
7-8	37,000	6,200	6,060	3,022	3,036	9,265	8,988	—	—	18,487	18,084	74	36,645
8-9	38,000	1,097	1,053	4,467	4,330	13,173	13,031	—	—	18,737	18,414	105	37,256
9-10	38,000	74	60	4,495	4,436	14,303	14,083	33	11	18,905	18,540	125	37,670
10-11	42,000	6	2	4,683	4,602	15,501	15,369	146	97	20,348	20,070	125	40,531
11-12	44,000	1	1	3,520	3,377	15,976	15,508	1,256	1,203	20,763	20,089	125	40,967
12-13	45,000	—	—	411	344	13,673	13,268	4,166	4,127	18,261	17,739	102	36,082
13-14	47,000	—	—	24	27	12,606	12,178	4,947	4,979	17,577	17,184	125	34,886
14-15	47,000	—	—	4	3	4,086	4,425	2,343	2,582	6,432	7,010	80	13,529
15-16	52,000	—	—	2	1	375	621	615	868	992	1,490	67	2,549
16 over	55,000	—	—	—	—	28	47	157	201	186	248	19	463
Total	584,000	41,632	40,284	23,654	22,922	108,088	106,269	13,663	14,068	187,037	183,543	1,094	371,674
Total	Both Sexes	81,916		46,576		214,357		27,731		370,580			

Note.—There are no Certified Efficient and Non-Local Public Elementary Schools in Wales

TABLE 2—WALES (continued)
POST-PRIMARY

AGES	SECONDARY SCHOOLS				TECHNICAL AND ART										GRAND TOTAL BOARD OF EDUCATION	
	GRANT AIDED MARCH 31st 1937		EFFICIENT NOT AIDED OCTOBER 1st 1937		FULL TIME				DAY CLASSES				PART TIME			PREPARATORY EFFICIENT
					JUNIOR		SENIOR		DAY CLASSES		EVENING		BOYS	GIRLS		
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	MALE	FEEMALE	MALE	FEEMALE	MALE	FEEMALE				
Under 9	—	15	—	—	—	—	—	—	—	—	—	—	40	19	738	
9-10	2	21	75	293	—	—	—	—	—	—	—	—	125	17		
10-11	56	75	—	—	—	—	—	—	—	—	—	—	—	—		
11-12	993	977	—	—	—	—	—	—	—	—	—	—	142	7	11-16 49,201	
12-13	3,618	3,640	375	1,214	151	12	—	—	—	—	—	495	501	—		
13-14	4,767	4,488	—	—	473	23	16	10	110	51	2,673	2,107	2	—		
14-15	4,513	4,082	—	—	425	15	30	12	117	50	3,134	2,016	—	—	16-21 29,516	
15-16	4,141	3,814	—	—	214	2	80	60	305	90	3,441	1,933	—	—		
16-17	2,933	2,655	140	334	30	—	74	41	252	51	2,596	1,407	—	—		
17-18	1,568	1,364	—	—	—	—	—	—	—	—	—	—	—	—	34,255	
18-19	754	504	—	—	—	—	273	98	553	164	4,789	2,239	—	—		
19-21	394	178	—	—	—	—	233	44	668	610	12,817	19,883	—	—		
21 over	—	—	—	—	—	—	—	—	—	—	—	—	—	—	113,710	
Total	23,739	21,813	590	1,841	1,300	52	706	265	2,005	1,016	29,945	30,086	309	43		
Both Sexes	45,552	—	2,431	—	1,353	—	971	—	3,021	—	60,031	—	352	—		

UNIVERSITY

MEN

WOMEN

Full-time
Part-time

Total

834

93

927

TABLE 3—ORGANISATION AND STAFFING, MARCH 31st, 1937

	COUNTY COUNCILS		BOROUGH AND URBAN DISTRICTS	COUNTY BOROUGH	LONDON	TOTAL ENGLAND AND WALES	TOTAL 1936	WALES	
	URBAN	RURAL						1937	1936
Number of Authorities	62		Boroughs 146 UDs 24	83	1	316	316	30	30
Number and Type of Departments									
Senior Boys	169	20	190	388	163	929	907	18	18
Senior Girls	161	21	187	394	160	933	911	17	17
Senior Mixed	360	168	182	326	66	1,100	1,046	78	72
All Ages Boys	361	191	266	311	168	1,190	1,607	170	181
All Ages Girls	379	203	279	642	181	1,678	1,691	181	185
All Ages Mixed	1,181	7,187	702	810	128	10,411	10,721	1,314	1,329
Junior Boys	132	24	113	225	166	960	694	31	31
Junior Girls	105	30	130	262	160	727	707	38	31
Junior Mixed	1,190	2,068	721	1,388	203	5,560	5,218	228	213
Infants	1,581	763	1,088	1,973	593	5,981	6,069	592	597
Total	5,355	10,905	3,077	6,812	1,970	20,350	20,478	2,607	2,679
Average size of Departments	172	71	204	234	212	156	101	127	158
Number of Classes	32,426	35,551	22,666	45,736	12,760	147,149	118,849	12,846	13,102
Percentages of Classes with over 30 pupils	19	04	18	11	09	18	29	04	06
Teachers									
(a) Total Number	71,058		26,201	64,485	16,232	168,014	169,501	14,141	14,720
(b) Percentage of Certified	98.6		83.3	88.5	95.1	78.4	77.7	90.9	69.3
(c) Percentage of Women	73.2		68.5	70.9	67.2	71.2	71.5	66.1	69.7
(d) Number of pupils per teacher	20		29	29	29	28	28	26	24
Finance	s d		s d	s d	s d	s d	s d	s d	s d
(a) Expenditure per pupil	281 6		800 8	301 10	462 2	310 9	293 1	323 0	301 8
(b) Teachers' salaries per pupil	170 6		191 0	186 1	258 7	191 0	181 11	212 3	198 6
(c) Special services per pupil	16 7		22 6	27 1	64 2	25 6	23 4	19 0	17 2
(d) Board of Education grant per pupil	146 0		151 9	140 4	173 9	160 11	142 9	186 3	171 10
(e) From rates per pupil	132 8		119 1	110 2	280 4	183 4	144 6	132 2	122 3
(f) Rate per £	35 D		28 D	31 1	24 2	30 1	29 D	50 S	50 1

TABLE 4
PUBLIC ELEMENTARY SCHOOLS, MARCH 31st, 1937

TYPE OF INSTITUTION	SCHOOLS	DEPART- MENTS	AVERAGE NUMBER ON REGISTERS	AVERAGE ATTEND- ANCE	NUMBER OF TEACHERS
Public Elementary Schools, Local Authority	20,905	29,359	5,183,298	1,588,298	168,011
Non local Schools	33	36	4,155	4,131	178
Certified Efficient Schools	17	17	1,227	1,058	56
Certified Special Schools	609	609	51,091	44,501	2,748
Poor Law Schools	22	27	3,264	—	130
Nursery Schools	90	90	6,286	4,333	188
Total	21,676	30,137	5,251,494	4,642,901	171,314
1936	21,647	30,260	5,287,722	4,805,019	172,868

Council and Voluntary Schools by Denomination

INSTITUTIONS	SCHOOLS	DEPART- MENTS	AVERAGE NUMBER ON REGISTERS	AVERAGE ATTEND- ANCE	NUMBER OF CLASSES
1 Council Schools	10,274	16,289	3,685,488	8,176,804	97,180
2 Voluntary Total	10,401	13,070	1,595,856	1,411,991	49,009
Church of England	9,068	10,393	1,172,330	1,039,164	38,194
Methodist	118	138	18,209	16,083	561
Roman Catholic	1,252	1,891	890,218	833,271	10,101
Jewish	13	17	1,758	4,156	131
Other	179	201	22,710	20,330	736
Total	20,905	29,559	5,185,498	4,588,298	147,110
1936	20,880	29,478	5,321,065	4,748,453	148,839

Maintained Public Elementary Schools

Classes by Size (Number on Registers) on March 31st, 1937

YEAR	NUMBER OF CLASSES WITH NUMBER OF PUPILS ON REGISTERS						
	NOT OVER 20	21-40	41-60	61-80	80	TOTAL	
1934	13,141	27,939	40,497	40,602	21,469	189	147,177
1935	13,596	30,562	46,632	50,480	9,928	89	161,587
1936	12,508	29,716	51,077	49,877	1,218	11	150,439
1936	13,630	31,209	54,379	46,917	3,362	42	148,889
1937	14,345	32,120	54,491	45,547	4,616	70	147,110

TABLE 5—PUBLIC ELEMENTARY SCHOOLS

Classes on March 31st, 1937, by Grade and Sex of Teacher in charge, and by Age-range and Sex of Pupils

GRADE AND SEX OF TEACHER IN CHARGE	CLASSES WITH AGE-RANGE 1—												TOTAL			
	UNDER 11					11 AND OVER										
	CONTAINING			TOTAL (5)	CONTAINING			TOTAL (9)	CONTAINING			TOTAL (13)				
	BOYS ONLY (2)	GIRLS ONLY (3)	BOYS AND GIRLS (4)		BOYS ONLY (6)	GIRLS ONLY (7)	BOYS AND GIRLS (8)		BOYS ONLY (10)	GIRLS ONLY (11)	BOYS AND GIRLS (12)					
1 Certified Head (Men)	42	—	214	201	1	2,356	2,495	4,091	614	17	3,370	4,091	587	18	5,880	6,783
2 Certified Head (Women)	17	90	4,179	4,392	6	228	3,268	4,132	6	689	615	1,210	29	918	8,692	9,534
3 Certificated Assistant (Men)	2,941	2	2,349	5,292	3,721	3,268	6,049	11,725	10	5,822	17,557	29,438	17,987	13	11,469	45,436
4 Certificated Assistant (Women)	9	146	4,783	37,056	43,945	2,441	5,641	9,411	1,170	11,719	16,984	29,438	2,695	19,051	808	71,400
5 Uncertificated (Men)	316	—	635	319	635	210	348	568	169	1	139	309	1,899	1	1,900	1,900
6 Uncertificated (Women)	706	1,954	18,487	20,517	97	145	2,883	3,438	19	328	348	686	882	2,027	21,188	21,595
7 Substitute (Men)	43	—	4,953	5,030	1	6	137	141	1	4	6	11	45	65	5,183	5,183
8 Other (Men)	—	—	4	10	4	—	—	2	2	—	14	39	35	—	45	68
9 Other (Women)	—	—	36	43	—	—	—	9	9	—	21	47	1	33	68	92
10 Total, 1937	6,308	6,197	67,555	80,020	4,181	4,109	17,956	26,246	12,759	12,094	15,430	40,883	23,308	23,000	100,941	147,749
11 Total, 1936	6,595	6,517	67,410	80,222	4,330	4,304	17,983	26,235	13,170	12,991	15,633	41,794	24,942	23,812	100,933	148,586

1 In determining the age range of classes, age groups at either end of the range, if relatively small, are ignored

Provision for Practical Instruction for Pupils of 11 years of age and over, by Type of Department

TYPE OF DEPARTMENT	DEPARTMENTS ON MARCH 31st, 1937, WHICH MADE PROVISION DURING THE YEAR FOR INSTRUCTION IN—										TOTAL OF DEPARTMENTS MAKING NO PROVISION FOR PRACTICAL INSTRUCTION (11)
	DOMESTIC SUBJECTS			WOODWORK AND/OR METALWORK		GARDENING		OTHER SUBJECTS		TOTAL NUMBER OF DEPARTMENTS (10)	
	AT CENTRES (2)	ON SCHOOL PREMISES (3)	AT CENTRES (4)	ON SCHOOL PREMISES (5)	AT CENTRES (6)	ON SCHOOL PREMISES (7)	AT CENTRES (8)	ON SCHOOL PREMISES (9)			
1 Senior Boys	4	7	314	508	11	272	6	476	524	5	
2 Senior Girls	419	505	6	19	4	137	10	514	529	4	
3 Senior Mixed	502	680	444	627	6	498	8	645	1,097	3	
4 Boys	6	—	1,414	171	8	387	6	467	1,428	62	
5 Girls	1,360	330	4	—	—	36	3	248	517	61	
6 Mixed	5,311	807	4,149	1,314	42	4,469	13	3,339	5,851	1,527	
7 Total 1937	7,897	2,082	6,069	2,754	71	5,732	48	5,769	14,779	1,692	
8 Total, 1936	7,916	2,046	6,170	2,726	85	5,713	52	5,713	14,783	1,185	
9 Total, 1935	8,090	1,912	6,147	2,624	109	5,575	169	5,575	14,879	2,377	

The total number of centres was 2,892, of which 2,306 made provision for Domestic Subjects, 1,645 for Woodwork and/or Metalwork, 19 for Gardening, and 10 for Other Subjects

1 Departments making provision for more than one subject have been counted once only in Column 10

TABLE 6—TEACHERS IN PUBLIC ELEMENTARY SCHOOLS
ON MARCH 31st, 1937

(1) By Sex, Numbers and Qualification

SEX (1)	CERTIFI- CATED (2)	PER CENT AGE (3)	UNCERTIFI- CATED (4)	SPECIAL SUBJECTS (5)	SUPPLY MENTARY, ETC. (6)	TOTAL ¹ (7)	PER CENT AGE ² (8)	GRADUATES ² (9)	PER CENT AGE (10)
Male	41,484	91.9	1,524	2,376	21	48,405	28.8	6,042	13.7
Female	87,291	76.6	23,641	2,136	5,241	119,609	71.3	4,706	4.2
Total	131,775	78.4	25,165	4,512	5,262	168,014	100	11,407	7.0

¹ Percentages are of the total in col. 7² Graduates included in col. 7

(2) Teachers not Classified by Sex

Other Adult Full time	65
Part time	1,010
Occasional Emergency	3,978
Pupil Teachers	912
Student Teachers	693
Monitors	582
Total not classified	6,800
Grand Total, all P.E.S. Teachers	174,814

(3) Changes during the Year ended March 31st, 1937

GRADE AND SEX	ENTERING OR RESUMING				WITHDRAWING				
	NEW ENTRANTS	RESUMING AFTER A BREAK	TRANS- FERRED FROM OTHER SERVICE	TOTAL	SUPERAN- NUATED	DIED	TRANS- FERRED TO OTHER SERVICES	OTHER REASONS, INCLUD- ING MAR- RIAGE	TOTAL
<i>Certificated</i>									
Men	1,216	230	111	1,557	611	186	222	210	1,250
Women	3,522	916	106	4,544	1,188	211	342	4,142	5,068
Total	4,738	1,146	217	6,101	1,799	397	564	5,692	6,327
<i>All Other</i>									
Men	267	51	19	337	53	14	44	305	416
Women	987	600	17	1,604	473	74	89	1,776	2,708
Total	1,254	651	36	1,941	526	88	133	2,081	2,724
<i>All Grades</i>									
Men	1,483	281	130	1,894	664	200	266	545	1,675
Women	4,519	1,276	213	6,008	1,666	285	318	5,217	7,376
Grand Total	8,009	1,587	343	7,892	2,320	485	581	5,702	9,051

(4) Membership of Teachers' Organisations

	NATIONAL UNION OF TEACHERS	NATIONAL ASSOCIATION OF SCHOOLMASTERS	NATIONAL UNION OF WOMEN TEACHERS	NATIONAL ASSOCIATION OF HEAD TEACHERS	NATIONAL FEDERATION OF CLASS TEACHERS
Male	40,894	10,546	Still undisclosed	} 10,367	7,000
Female	108,536	—	—		
Total	149,430 ¹	10,546	—	10,367	7,000

¹ In addition there are 6,110 Associate Members

TABLE 7
POST-PRIMARY EDUCATION, MARCH 31st, 1937

	ADMINISTRATIVE COUNTIES	COUNTY BOROUGH	LONDON	ENGLAND	WALES
Estimated Population 1937	23,465,000	13,112,000	4,106,000	38,495,000	2,488,000
1 Secondary Schools Grant aided	896	406	91	1,340	163
(a) Pupils	159,781	168,621	38,017	120,683	45,552
(b) Assisted Pupils	137,915	92,046	19,051	214,396	34,686
Percentage of (b) to (a)	53.1	51.7	50.1	50.9	76.1
2 Secondary Schools Efficient	293	91	20	378	19
(a) Pupils	53,304	15,837	4,380	70,000	1,431
(b) Pupils in 1 and 2 per 1,000 of Population	13.3	13.8	10.3	12.8	19.3
3 Junior Technical Schools	91	88	45	209	17
Pupils	9,964	11,761	5,667	26,041	1,362
4 Junior Art Dept. Schools	16	21	1	41	—
(a) Pupils	794	1,385	187	2,766	—
(b) Pupils in 3 and 4 per 1,000 of Population	0.4	1.0	1.1	0.7	0.6
5 Senior Full-time Courses in Colleges	12	18	16	71	6
Students	1,062	5,129	3,908	9,510	717
6 Technical Day Classes	77	88	40	182	18
Students	7,300	17,716	4,820	26,195	1,641
7 Day Continuation Schools	10	15	15	40	—
Pupils	2,796	9,183	7,380	19,361	—
8 Art Schools (excluding Junior)	62	77	13	177	5
Students	10,551	34,270	7,102	58,698	1,125
9 Art Classes (Senior)	68	11	5	80	4
(a) Students	1,546	1,036	612	6,511	179
(b) Senior Students (16+) in 5, 6, 7, 8 and 9 per 1,000 of Population	1.6	5.0	6.9	3.2	1.6
10 Evening Institutions	1,273	968	251	4,057	818
Students	118,704	384,920	214,491	989,324	60,131
11 Farm Institutes and Agricultural Courses	1,149	17	1	—	1,697
Students	18,827	3,110	—	1,491	6,473
10 and 11 per 1,000 of Population	19.9	26.7	51.3	26.1	26.7
Total Post-primary Pupils per 1,000 of Population	30.2	18.5	68.9	12.4	18.1
1936	32.4	46.6	67.2	10.1	12.9

TABLE 8—SECONDARY SCHOOLS

TYPE OF SCHOOL	SCHOOLS				PUPILS			AVERAGE NUMBER OF PUPILS PER SCHOOL
	BOYS	GIRLS	MIXED	TOTAL	BOYS	GIRLS ^a	TOTAL	
<i>A Schools recognised by the Board of Education as Efficient (List 60)</i>								
1 <i>Grant aided</i>								
(a) Council	217	282	268	767	137,115	142,181	279,296	300
(b) Welsh Intermediate	28	26	56	103	16,010	16,489	31,799	309
(c) Foundation	246	126	64	436	93,797	61,836	155,432	334
(d) Roman Catholic	29	63	—	92	9,360	18,849	28,106	300
Total on October 1st, 1937	511	490	387	1,397	350,572	328,104	678,676	347
2 <i>Not aided</i>								
(a) Foundation	107	141	9	247	73,128	22,820	95,947	227
(b) Roman Catholic	5	80	—	85	1,063	4,084	5,147	117
(c) Private (Proprietary)	12	101	2	115	2,429	9,668	12,097	107
Total on October 1st, 1937	124	322	11	397	76,620	36,572	113,192	186
Total A, October 1st, 1937	635	812	398	1,794	427,192	364,676	791,868	331
<i>B Secondary Schools not on the List 60 of the Board of Education</i>								
1 <i>Represented on the Headmasters' Conference</i>								
(a) Foundation	7	—	—	7	2,400	—	2,400	344
(b) Roman Catholic	4	—	—	4	1,100	—	1,100	275
Total 1	11	—	—	11	3,500	—	3,500	318
2 <i>Other Secondary Schools in Public Schools Year Books and R C Directory</i>								
(a) Foundation	16	14	2	32	1,800	1,700	3,500	109
(b) Roman Catholic	60	206	—	266	11,000	16,000	27,000	82
Total 2	76	220	2	298	12,800	17,700	30,500	81
Total Secondary A and B	711	1,032	400	2,093	439,992	382,376	822,368	270

PREPARATORY SCHOOLS

1 <i>On the List 60</i>	273	36	85	314	10,608	9,000	19,608	66
2 <i>Not on the List 60 but represented on the Association</i>	250	—	—	250	11,500	—	11,500	50

PRIVATE SCHOOLS

All Schools—6,500 with about 300,000 pupils, of which only about 50,000 in post primary departments

TABLE 9—GRANT-AIDED SECONDARY SCHOOLS

A—Classes on October 1st, 1937, by Size, containing

	NOT OVER 20	21-25	26-30	31-35	OVER 35	TOTAL
1 Council Schools	2,670	1,953	3,658	2,917	48	11,144
2 Roman Catholic Schools	317	211	709	702	1	1,140
3 Foundation and other Schools	2,041	1,119	1,312	971	11	6,290
4 Welsh Intermediate Schools	239	193	341	118	15	1,209
Total	5,270	3,606	6,223	4,606	78	19,783
Percentage October 1st, 1936	26.6	18.2	31.5	23.8	0.1	100.0
	26.6	18.0	31.0	23.8	0.1	100.0

B—Admissions during the Year ended March 31st, 1937

FROM	BOYS				GIRLS			
	FREE ¹	PARTIAL FEES	TOTAL	PERCENT AGE OF ASSISTED	FREE	PARTIAL FEES	TOTAL	PERCENT AGE OF ASSISTED
Public Elementary Schools	23,392	1,100	12,135	66.2	22,100	4,031	30,798	71.0
Other Schools	226	200	8,891	4.5	240	261	9,361	5.1
Total	23,617	1,300	20,966	55.6	22,340	4,292	36,149	67.7
Percentage from Public Elementary Schools	99.1	95.8	83.6	—	98.9	94.0	79.7	—

C—Full-time Pupils on March 31st, 1937

AGFs	PAYING FULL FEES		PAYING PARTIAL FEES			FREE PUPILS ¹		PERCENT AGE TO TOTAL	TOTAL BOTH SEXES
	BOYS	GIRLS	BOYS	GIRLS	PERCENT AGE TO TOTAL	BOYS	GIRLS		
Under 11 and over	12,581	15,805	190	236	1.4	518	107	4.1	29,512
	104,221	80,853	17,939	15,918	7.7	111,787	101,982	18.0	456,703
Total	115,805	101,168	18,131	16,151	7.3	112,305	102,389	16.0	466,245

¹ A "free pupil" means a pupil who was exempt from payment of tuition fees at or about the time of admission

TABLE 10—GRANT-AIDED SECONDARY SCHOOLS
YEAR ENDED JULY 31st, 1937

A—School Life and Leaving Age in Percentages

SCHOOL LIFE	BOYS SAYING				GIRLS SAYING			
	FULL YEARS	PARTIAL YEARS	NO YEARS	TOTAL	FULL YEARS	PARTIAL YEARS	NO YEARS	TOTAL
Under 5 years	8.7	8.8	5.7	7.1	9.2	9.5	5.8	7.9
5-6 years	13.0	19.3	9.1	11.2	11.4	23.4	10.2	12.0
6-7 years	35.1	42.5	26.2	35.9	21.9	29.9	24.3	21.9
7-8 years	33.8	23.5	38.7	26.0	32.0	23.0	39.0	26.4
8-9 years	13.8	9.6	11.7	12.5	13.5	8.6	11.6	12.3
Over 9 years	5.6	6.3	8.8	7.3	6.0	5.7	9.1	7.7
<i>Leaving Age</i>								
14-15 years	7.4	11.0	7.2	7.4	10.2	16.2	8.1	9.3
15-16 years	20.2	27.6	17.9	19.2	21.5	20.5	17.4	19.4
16-17 years	43.1	38.1	47.3	45.2	41.5	37.4	47.7	41.7
17-18 years	20.7	14.2	16.5	18.2	18.1	12.7	16.9	16.7
18-19 years	0.6	0.6	8.1	7.4	7.2	6.8	9.6	8.1
over 19 years	2.0	2.1	3.1	2.6	1.5	1.4	1.5	1.5

B—Approved Examinations

SCHOOLS SENDING PUPILS	SAT			LASELD			PERCENTAGE WHO PASSED		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
First Examination 1,688	36,000	36,364	63,021	36,714	19,178	46,892	72.9	72.7	72.5
Second Examination 1,261	0,533	3,361	9,891	1,014	2,205	6,779	69.1	67.1	68.5

C—Output to Universities and Teachers' Training

	TO UNIVERSITIES			TO TRAINING COLLEGES (NON UNIVERSITY)			BECAME TEACHERS DIRECTLY ¹		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL
(a) Ex P.E.S. pupils	1,655	684	2,339	With few exceptions Ex P.E.S. assisted pupils					
Assisted pupils	1,304	578	1,882						
(b) Other pupils	508	410	1,218						
Assisted pupils	170	146	306						
Total (a) and (b)	2,043	1,124	3,587	574	2,200	2,774	187	605	862
Percentage of ex P.E.S. pupils	67.2	80.9	65.2						

¹ Pupil Teachers, Student Teachers, Uncertificated and Supplementary

TABLE 11—TEACHERS IN GRANT-AIDED SECONDARY SCHOOLS ON MARCH 31st, 1937

A—By Sex and Qualification

	MRN	WOMEN	TOTAL
1 Graduates			
(a) Head Teachers Total	865	465	1,320
(i) Trained ¹	355	152	507
(ii) Not Trained	510	303	813
(b) Assistants Total	10,086	7,628	17,714
(i) Trained ¹	6,071	5,271	11,342
(ii) Not Trained	4,015	2,357	6,372
(c) Specialists ²	52	21	73
1 Total, 1937	11,008	8,104	19,107
Total, 1936	10,738	7,998	18,731
2 Non-Graduates			
(a) Head Teachers Total	5	20	25
(i) Trained ¹	—	9	9
(ii) Not Trained	5	11	16
(b) Assistants Total	376	708	1,084
(i) Certificated ³			
(a) Trained ¹	340	656	996
(b) Not Trained	36	52	88
(c) Specialists ²	779	1,632	2,411
(d) Other Teachers Total	516	1,308	1,824
(i) Trained ¹	21	101	122
(ii) Not Trained	495	1,207	1,702 ⁴
2 Total, 1937	1,676	3,668	5,344
Total, 1936	1,668	3,604	5,272
Grand Total	12,679	11,772	24,451
Percentage by Sex	51.8	48.2	100
Percentage of Graduates	86.8	68.8	78.1

¹ Covers any accepted course of training of at least one year's duration² Teachers possessing recognition under the code of Regulations for Public Elementary Schools³ Includes Teachers of Art, Music, Handicraft, Domestic Subjects and Physical Training⁴ Including 245 Teachers who hold the Certificate of the National Froebel Union*B—Membership in Teachers' Organisations*

	MEN'S ASSOCIATIONS		WOMEN'S ASSOCIATIONS	
	HEAD MASTERS	ASSISTANT MASTERS	HEAD MISTRESS	ASSISTANT MISTRESS
Members	807 ¹	10,749 ²	643 ³	8,700 ⁴

¹ Also 171 Associate Members² In addition there are 726 Associate Members and 541 Student Members³ Correspondent, Associate and other Members, 190⁴ Also 258 Student Members

TABLE 12 — TECHNICAL AND FURTHER EDUCATION
MARCH 31st, 1937*A—Junior Institutions by Age and Sex*

	UNDEF 13	13-14	14-15	15-16	16-17	18 OVER	TOTAL
<i>Junior Technical Schools</i>							
Boys	829	1,416	7,128	55,554	1,820	240	19,286
Girls	137	841	2,647	2,082	915	76	7,228
<i>Schools of Nautical Training</i>							
Boys	6	65	390	320	94	7	882
<i>Junior Art Department</i>							
Boys	80	338	515	938	61	2	1,714
Girls	68	281	128	243	60	5	1,022
Total Junior	1,136	4,886	11,401	6,037	2,972	380	29,761

B—Senior Institutions by Age and Sex

	UNDEF 15	15-16	16-17	17-18	18-21	21 OVER	TOTAL
<i>Colleges, Full time</i>							
Male	—	380	993	793	1,897	1,109	5,480
Female	—	286	848	481	681	127	2,726
<i>Technical Day Classes, Full time</i>							
Male	507	1,419	200	86	152	595	1,879
Female	532	1,011	127	335	500	190	2,637
<i>Art Schools, Full time</i>							
Male	416	321	112	286	671	578	2,887
Female	274	318	617	516	1,120	628	3,628
Total Full time	1,619	2,188	3,496	2,617	5,084	3,617	18,601
<i>Part time Colleges (Senior Courses)</i>							
Male	—	82	108	178	187	199	1,114
Female	—	35	97	91	162	283	668
<i>Technical Day Classes</i>							
Male	848	1,811	4,098	5,035	6,891	3,999	20,217
Female	316	976	180	157	840	2,821	6,208
<i>Art Schools</i>							
Male	3,682	5,079	1,269	2,483	5,613	10,105	20,621
Female	2,951	1,373	1,611	1,091	2,762	16,281	24,722
<i>Art Classes</i>							
Male	462	278	108	217	427	1,013	2,728
Female	138	166	248	190	887	2,701	4,000
<i>Day Continuation Schools</i>							
Male	2,717	2,946	1,504	955	122	—	8,264
Female	5,280	4,167	1,936	696	31	—	11,000
<i>Evening Institutes</i>							
Male	95,097	60,070	53,260	26,554	19,231	29,840	372,046
Female	71,908	40,610	37,892	19,814	37,840	22,120	177,193
<i>Colleges (Evening)</i>							
Male	3,793	10,399	25,613	18,183	42,882	69,102	171,251
Female	1,371	3,666	7,311	4,769	10,576	40,540	68,861
Total Part time	190,820	127,992	178,793	77,893	148,768	172,996	1,167,187
Grand Total Senior	192,469	130,180	142,289	80,510	153,797	470,644	1,176,688

TABLE 13 — AGRICULTURAL EDUCATION, YEAR ENDED
MARCH 31st, 1937

	FARM IN- STITUTES	ORGANISED DAY COURSES	EVENING CLASSES	CORREL- SPONDENCE COURSES	MANUAL PROCESSES	DAY CON- TINUATION CLASSES	TOTAL
No of Courses	154	388	499	6	305	40	1,397
No of Students, Male	911	1,581	9,615	58	2,495	107	14,997
No of Students, Female	517	1,887	1,940	6	251	176	4,307
No of Students, Sex Unspecified	62	1,924	841	—	—	—	2,897
No of Students, Total	1,690	5,492	11,796	64	2,876	283	22,031

No of Meetings Lectures, Demonstrations, etc 9,177

*Number of Students at University Departments of Agriculture,
Agricultural Colleges and County Farm Institutes
on November 1st, 1937*

	AT HIGHER INSTITUTIONS	AT FARM INSTITUTIONS	OF WHICH WOMEN STUDENTS	TOTAL
Number of Students	2,099	725	543	2,822

Distribution of Students at Higher Institutions by Type of Course

Agriculture, 1,045, Dairying, 161, Veterinary Science, 613, Rural Domestic Economy, 6, Horti-
culture, 265 Poultry Husbandry, 62, Estate Management, 56, Bacteriology, 2

ACADEMIC YEAR 1936-7

Number of Scholarships awarded and Total Amount expended

(1) BY MINISTRY OF AGRICULTURE

	SENIOR		EXCLUDED JUNIOR		JUNIOR		TOTAL BOTH SEXES	TOTAL COST FOR THE YEAR
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN		
Universities and Univer- sity Colleges	18	6	4	—	6	9	37	£1,121
Agricultural Colleges	2	1	3	3	14	9	35	£1,911
Farm Institutes	—	2	3	—	65	10	80	£5,647
Total	20	12	10	3	85	21	151	£7,714

(2) BY LOCAL EDUCATION AUTHORITIES

YEAR	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37
Number of Scholarships	1,659	1,553	1,230	1,311	1,287	1,278
Amount Expended	£21,896	£22,660	£22,312	£23,815	£26,704	£30,068

TABLE 14—TRAINING OF TEACHERS, 1936-7
A Institutions Recognised as Training Colleges Provided by

TYPE OF INSTITUTION	LOCAL EDUCA- TION AUTHORITY	UNIVER- SITIES AND UNI- VERSITY COLLEGES	CHURCH OF ENGLAND	ROMAN CATHOLICS	METHOD ISTS	UNDE- NOMINA- TIONAL	TOTAL
1 University Training De- partments	—	23	—	—	—	—	23
2 Post graduate Training Colleges	—	—	—	1	—	2	3
3 Two year Training Colleges	21	1	24	8	2	12	73
4 Training Colleges for Domestic Science	7	1	1	—	—	2	11
Total	28	24	30	9	2	16	109

Four colleges, provided by voluntary bodies, are not recognised for grant

B Students in Training by Type of Course and Sex

TYPE OF COURSE	MEN	WOMEN	TOTAL
1 Four year Courses	2,680	1,942	4,622
2 Two year Courses	2,819	6,566	8,885
3 One year Courses Total	816	119	735
(a) Advanced or Post graduate	316	413	780
(b) Certificated Student	—	5	5
4 Third year Courses Total	190	87	276
(a) Degree Courses	96	13	109
(b) Other Continuous Courses	68	60	119
(c) Deferred Courses	39	18	48
5 Domestic Subjects Courses Total	—	1,218	1,278
(a) Three year Courses	—	920	920
(b) Two year Courses	—	287	287
(c) Third year Courses	—	—	—
(b) Continuous	—	51	53
(b) Deferred	—	2	2
Total Students in Training, Resident in College or Hostel	5,501	10,282	15,708 ¹
Day Students	5,625	8,354	11,879
	1,874	2,908	4,787

¹ 5,560 students (2,957 men and 2,136 women) are also included in the universities figures

C Other Courses for Teachers

(1) PRELIMINARY TRAINING

	BOYS AND MEN	GIRLS AND WOMEN	TOTAL
Pupil Teachers' Centre	32	16	47
Rural Pupil Teachers	37	265	202
Student Teachers	119	500	118
Total	181	676	757

(2) OTHER COURSES FOR TEACHERS

	BOARD OF EDUCATION	LOCAL AUTHORITIES	OTHER BODIES	STUDENTS		TOTAL
				MEN	WOMEN	
Short full time	50	98	62	4,359	5,957	7,316
Part time	2	1,257	11	11,158	31,724	42,182
Total	52	1,355	93	14,517	36,981	50,498

TABLE 15—UNIVERSITY AND UNIVERSITY COLLEGE STUDENTS, 1936-7

	FULL-TIME STUDENTS			PART-TIME STUDENTS			STUDENTS ATTENDING COURSES NOT OF A UNIVERSITY STANDARD	STUDENTS ATTENDING EXTRA MURAL CLASSES	GRAND TOTAL	STATE SCHOLARSHIPS	
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL				MEN	WOMEN
Birmingham University	999	407	1,406	163	31	194	176	1,142	2,018	1	8
Bristol University	567	345	1,012	74	32	106	69	1,126	2,313	1	6
Cambridge University	5,386	507	5,893	—	—	—	—	2,389	8,282	350	71
Durham University	1,377	391	1,668	278	64	342	347	1,813	4,170	5	4
Exeter University College	285	131	416	139	82	221	209	978	1,814	—	—
Leeds University	1,331	374	1,705	213	169	382	108	1,518	3,813	14	7
Liverpool University	1,623	463	2,086	343	89	432	—	1,151	3,669	10	13
London University (all institutions)	9,416	3,415	12,831	4,509	1,892	6,201	285	2,310	21,627	63	120
Manchester University	1,546	574	2,060	287	44	331	368	1,556	4,315	8	17
Manchester College of Technology	308	4	312	56	—	60	5,914	—	6,386	—	—
Nottingham University College	464	116	580	266	56	322	2,025	4,359	7,386	203	108
Oxford University	4,057	863	4,920	—	—	—	—	1,356	6,276	—	—
Reading University	311	292	603	10	3	13	793	109	1,318	1	5
Sheffield University	640	121	761	211	91	302	1,929	1,666	4,658	2	1
Southampton University College	239	97	336	83	28	111	978	760	2,185	—	—
Total England, 1936-7	28,572	8,040	36,612	6,622	2,385	9,007	13,201	22,233	81,130	958	360
Total England, 1935-6	28,575	8,373	37,048	6,903	2,341	9,244	12,736	22,250	81,278	648	351
Hull University College	134	46	183	9	15	24	24	3,051	3,312	—	—
Leicester University College	173	29	103	26	10	36	—	1,627	1,765	—	—
Aberystwyth University College	536	235	771	7	10	17	43	824	1,655	—	—
Bangor University College	407	120	527	27	11	38	—	1,011	1,576	—	—
Cardiff University College	803	326	1,129	58	41	99	—	1,209	2,437	14	14
Swansea University College	573	116	629	18	8	26	—	645	1,300	—	—
Welsh National School of Medicine	104	37	141	115	23	138	46	—	325	—	—
Total Wales, 1936-7	2,363	824	3,197	225	93	318	89	3,689	7,293	14	14
Total Wales, 1935-6	2,500	917	3,417	245	68	313	67	3,764	7,561	16	16

TABLE 16—ASSISTED STUDENTS AT UNIVERSITIES AND UNIVERSITY COLLEGES, 1936-7

1 *Numbers by Institutions*

UNIVERSITY	MEN	WOMEN	TOTAL	PERCENTAGE TO TOTAL NUMBER OF FULL TIME STUDENTS
Oxford and Cambridge	4,025	682	4,707	43.5
London University				
(a) Excluding Medical Schools	1,771	984	2,755	36.5
(b) Medical Schools	522	93	615	11.7
Provincial Universities and Colleges	4,211	1,783	5,994	46.2
Total England	10,529	3,542	14,071	38.4
Wales	1,304	495	1,799	56.3

2 *Numbers by the Source of Assistance*

BY WHOM	MEN	WOMEN	TOTAL	TOTAL VALUE IN POUNDS FEES AND MAINTENANCE
1 <i>Board of Education</i>				
(a) State Scholarships	872	374	1,046	124,924
(b) Science (Imperial College)	100 ¹	—	100 ¹	10,539
(c) Art (Royal College)	100 ¹	60 ¹	160 ¹	5,936
(d) Training Departments	2,630 ¹	2,000 ¹	4,630 ¹	281,824 ²
2 <i>Ministry of Agriculture</i>	28	9	37	6,124
3 <i>L.E.A.</i>				
(a) Ordinary Students	3,881	1,122	5,003	290,652
(b) Training Departments	805	515	1,320 ³	45,001
4 <i>Private Scholarships and Exhibitions</i>	4,400 ¹	400 ¹	4,800 ¹	350,000 ¹

¹ *Approximate figures*² £185,487, fees, £116,137, maintenance allowances³ *The majority of these students are also assisted by the Board of Education*

TABLE 17—SCHOOL MEDICAL WORK, 1937

A Number of Pupils Inspected

TYPE OF INSPECTION	UNCLERAN- TNESS	DENTAL	ROUTINE	SPECIAL	RE INSPECTION
Examined	14,350,088	3,503,232	1,700,078	1,529,136	2,066,082
Found to Require Treatment	445,168	2,469,623	285,048	—	—
Percentages	3.1	70.5	16.8	—	—
Number of Children Treated	28,083	1,544,766	1,470,997 ¹		

Number of pupils on registers, 6,185,298

¹ Number of Defects*B Treatment*

FORM OF TREATMENT	NUMBER OF L.E.A.S. PROVIDING TREAT- MENT	NUMBER OF CLINICS PROVIDED BY L.E.A.S.	NUMBER OF HOS- PITALS WITH WHICH L.E.A.S. HAVE ARRANGE- MENTS	NUMBER OF DEFECTS TREATED		
				UNDER THE ARRANGE- MENTS MADE BY L.E.A.S.	OTHER WISE	TOTAL
1 Minor Ailments	311	1,215	15	1,019,019	45,217	1,064,236
2 Dental	314	1,582	15	1,544,766	—	1,544,766
3 Ophthalmic	314	737	130	261,107	8,636	269,743
4 Nose and Throat						
(a) Operative	291	62	561	60,768	17,642	87,410
(b) Non-operative				—	—	48,460
5 Ringworm (X-rays)	206	34	72	702	146	848
6 Orthopaedic and Postural	261	358	139	} Figures not available		
7 Artificial Light	116	107	30			

*C Provision of Free Meals and Milk*¹ Free Meals under Education Act 1921

	ORDINARY MEALS	MILK MEALS	TOTAL
Number of Children	139,662	467,515	537,300 ¹
Number of Meals	21,709,087	78,299,008	100,008,095

¹ Excluding duplicates

2 Provision of Milk under the Milk in School Scheme

	FREE	FOR PAYMENT	TOTAL	PERCENTAGE OF TOTAL NUMBER ON REGISTERS
Number of Children	362,024	2,136,644	2,498,668	n 49.2
<i>Otherwise (Mainly Preparations of Dried Milk)</i>				
Number of Children	17,030	109,093	126,123	2.5
Total	379,054	2,245,737	2,624,791	51.7

TABLE 18—HOME OFFICE APPROVED SCHOOLS,
DECEMBER 31st, 1937

AGE	BOYS				GIRLS			TOTAL
	JUNIOR	INTER MEDIATE	SENIOR	TOTAL	JUNIOR	SENIOR	TOTAL	BOTH SEXES
6-8	8	—	—	8	10	—	10	18
8-10	850	—	—	150	36	—	36	186
10-12	733	—	—	733	96	—	96	829
12-14	1,407	223	2	1,632	281	1	282	1,914
14-15	492	654	34	1,180	247	1	248	1,428
15-16	87	619	349	1,055	169	87	256	1,311
16-17	13	270	848	1,131	49	212	261	1,392
17-18	—	34	957	991	13	185	198	1,189
18-19	—	2	297	299	—	58	58	357
Total	2,890	1,802	2,487	7,179	901	544	1,445	8,624
1936	2,761	1,733	2,258	6,752	850	429	1,279	8,031

TABLE 19—COMBINED EXPENDITURE, 1935-6

A System Administered by L E A s

SOURCES	STATE GRANTS	L E A RATE FUNDS	ENDOWMENTS, SUBSCRIPTIONS, SALES, ETC	FEES PARENTS CONTRIBU TIONS	TOTAL	PER CENTAGE
	£	£	£	£	£	
Administration and Inspection	—	3,857,874	—	—	3,857,874	100
Elementary Education	33,819,068	27,593,552	1,413,080	—	62,825,700	67.0
Elementary Education Loan Charges	—	4,108,623	—	—	4,108,623	1.6
Higher Education	8,070,925	8,083,151	236,198	2,391,175	20,581,449	22.0
(a) Secondary Schools			221,717	2,086,451	2,308,168	2.4
(b) Technical and Vocational			11,116 ¹	866,103	877,219	0.9
(c) Training Colleges			—	146,512	146,512	0.2
(d) Aid to Non University Students			—	—	—	—
(e) Medical Service, Capital Expenditure etc			—	—	671,181	0.7
(f) Loan Charges	—	—	—	—	505,399	0.5
Centres for Juvenile Unemployed	129,112	128,467	—	—	257,579	0.3
Agricultural Schools	330,877	118,731	165,000 ¹	35,000 ¹	649,608	0.7
Approved Schools, etc	81,690	201,995	—	15,770	299,455	0.3
Total A	43,057,992	43,822,387	1,814,273	3,219,858	91,914,410	100
Percentage	47.0	47.1	2.0	3.5	100.0	

¹ Approximate² Boarding excluded (£118,471)³ These are figures shown in L E A accounts, the Ministry of Labour shows only £168,800 of total expenditure, on which £168,812 grant has been paid in 1935-37

NOTES ON TABLE OF COMBINED EXPENDITURE

The table A was mainly based on the accounts of L E A, corrected, where necessary, by figures of respective Ministries. Under rate funds are included, not only rates but also an unspecified amount from the block grants of the Ministry of Health. All fees paid by L E A or the Board of Education were transferred from the Fees column to the first two columns. In this way cross entries were eliminated with one possible exception concerning students in the Training Colleges, where a small amount evidently is entered twice. The Table B was mainly based on the Civil Appropriation Accounts, with certain corrections from the Ministries concerned. Boarding in Special Schools, Training Colleges, Approved Schools and some other institutions is included. But we excluded Boarding expenditure of Secondary Schools, giving it in the notes. It could be added to the two last columns, but as it is not a part of grant aided secondary system we preferred to give it separately. On the whole the country spends about 120 million pounds on education, of which about 52 million comes from the taxes, 46 million from rates and about 22 million from private foundations and parents.

B System Directly Aided by the State

SOURCES	STATE FUNDS	L.L.A. GRANTS	ENDOWMENTS, SUBSCRIPTIONS, SALES, ETC.	TECH. PARTNERS' CONTRIBUTIONS	TOTAL	PER CENTAGE
Administration and Inspection ¹	£ 681,862	£ —	£ —	£ —	£ 681,862	2.6
Elementary Education	65,263	—	60,000 ²	—	125,263	0.6
Secondary Schools	704,198	366,729	164,012	1,177,080	2,412,019 ³	12.7
Technical and Vocational Training Colleges	150,281	—	13,000	50,000 ⁴	300,281	1.1
Six non-University Agricultural Colleges	182,871	—	—	820,000 ⁵	784,871	4.1
Other Agricultural Education	19,304	7,100	1,000	38,700 ²	67,404	0.3
Approved Schools, etc.	40,343	—	—	—	40,343	0.2
Universities and University Colleges	278,551	—	—	16,700	294,551	1.5
Add to University Students	2,101,221	909,059	1,360,277	1,514,941	5,485,300	28.3
Museums, Galleries, etc.	237,070	156,663	150,000 ²	—	543,733	2.8
Superannuation of Teachers	881,751	—	86,110	—	967,861	5.0
	8,019,708	1,021,213	271,981	2,821,087 ²	7,133,889	37.0
Total B	8,002,842	2,240,464	1,278,730	5,036,708	19,068,284	100
Percentage	16.0	11.8	12.1	81.1	100	
Grand Total A and B	51,640,851	46,061,341	1,123,003	9,010,663	110,835,858	
Percentage	46.6	41.6	3.7	8.1	100	

¹ Board of Education £962,625 and Ministry of Agriculture £19,327

Approximate

² Teachers' Contributions³ Boarding excluded (£361,448)

Not included: the expenditure of the three fighting services, Forestry Commission (£17,386), Ministry of Health (£21,880), and Ministry of Pensions (£8,000) on education

*C Independent System**1 Semi-public Institutions*

SOURCES	EXTERNAL	INTERNAL	TOTAL
Oxford, 20 Men's Colleges	£ 586,186	£ 894,362	£ 1,480,548
Oxford, 4 Women's Colleges	—	118,724	118,724
Cambridge, 18 Men's Colleges	469,229	131,134	600,363
University College of Hull	26,204	5,831	32,035
University College of Leicester	9,681	2,220	11,901
407 Efficient Secondary Schools	800,000	1,660,000	2,460,000 ²
341 Efficient Preparatory Schools	—	600,000	600,000 ³

2 Private Institutions, Non inspected

600 Roman Catholic and Foundation Secondary Schools	—	—	700,000 ⁴
8,500 Private Schools all grades	—	—	4,500,000 ⁵

¹ Including £6,139 Government grants and £1,125 from Local Education Authorities, which were included also in the grant aided system² Including £2,792 State grants and £3,994 from local authorities also included in the State aided table³ Calculated by multiplying the average cost per pupil in similar grant aided schools (£30) by the number of pupils (75,000) Boarding excluded, which will add about £600,000⁴ Calculated by approximate cost per pupil (£20) by the number of pupils Boarding excluded⁵ Calculated by approximate cost per pupil by the number of pupils Boarding excluded⁶ Very approximate estimate

SECTION TWO

STATISTICS SCOTLAND

(See also YEAR BOOK, 1938, pages 65-7)

TABLE 20—AGE AND NUMBER OF PUPILS ON THE REGISTERS AT THE END OF THE SCHOOL YEAR, 1936-7

AGE	EXIT NATIVITY POPULATION	PRIMARY SCHOOLS				SPECIAL SCHOOLS	SIXE SCHOOLS	TOTAL	AF PROVED SCHOOLS	CORTIN UATION SCHOOLS	PRIVATE AND OTHER NON GRANT EARNING SCHOOLS Primary Secondary 6 321 - 617
		PRIMARY DEPART- MENTS	POST- PRIMARY DEPART- MENTS	PREPAR- ATORY DEPART- MENTS	SECOND- ARY DEPART- MENTS						
2-5	160,000	2,086	—	312	—	22	7	3,375	2	—	
6-7	81,000	45,945	—	5,701	—	249	53	61,344	4	—	
7-8	81,000	71,453	—	7,404	—	637	87	80,031	—	—	
8-9	83,000	71,186	—	8,062	—	911	86	80,235	12	—	
9-10	87,000	70,937	—	8,263	—	1,163	98	80,450	27	—	
10-11	87,000	70,687	—	8,656	—	1,280	89	80,612	39	—	
11-12	86,000	70,706	34	9,871	9	1,468	85	81,703	74	—	
12-13	88,000	71,729	1,738	9,601	761	1,416	67	83,311	126	—	
13-14	89,000	47,037	13,486	8,803	11,139	1,379	70	82,944	200	—	
14-15	89,000	13,508	40,285	2,486	18,668	1,373	70	82,944	200	—	
15-16	89,000	2,132	2,260	466	13,758	1,373	80	40,629	282	—	
16-17	100,000	16	383	57	11,801	621	1	14,848	269	—	
17-18	100,000	—	58	1	7,780	294	—	8,483	186	—	
18-20	160,000	—	32	—	2,124	14	—	4,758	154	—	
Total	—	580,950	79,995	67,584	84,432	11,795	741	795,452	1,666	139,007	
Average	—	667,320	—	142,005	—	9,656	—	—	—	—	
6-14	—	489,648	60,646	60,938	88,375	9,580	631	694,841	693	—	
14-18	—	5,927	19,357	529	43,976	1,920	21	68,717	921	—	

TEACHERS' TRAINING
MEN
802
WOMEN
2,066

The figures are not available in every age range. The total figures by sex are as follows: Primary departments boys 278,234, girls 372,721; post primary departments boys 38,421, girls 40,374; secondary schools preparatory departments boys 84,176, girls 33,368; secondary departments boys 43,967, girls 40,463; special schools boys 6,031, girls 5,264; adult schools boys 377, girls 464; total boys 402,706, girls 392,746.
1 This figure includes all students over 18 years of age.

TABLE 21 —TEACHERS, 1937

SCHOOLS	CERTIFICATED			UNCERTIFICATED	TOTAL	NUMBER OF GRADUATES	PERCENTAGE OF GRADUATES
	GENERAL	SPECIAL	TECHNICAL				
<i>Primary</i>							
Men	3,537	821	386	—	4,744	3,135	66
Women	14,121	259	515	15	14,910	3,830	26
Total	17,658	1,080	901	15	19,654	6,974	35
Percentage of Women	80	24	57	100	76	55	—
<i>Secondary</i>							
Men	490	2,069	451	—	3,010	2,517	81
Women	2,160	1,077	554	1	3,792	1,976	52
Total	2,650	3,146	1,005	1	6,802	4,493	66
Percentage of Women	82	34	53	100	56	44	—
<i>Special</i>							
Men	37	12	19	—	68	27	40
Women	561	25	18	—	604	97	16
Total	598	37	37	—	672	124	18
Percentage of Women	94	68	49	—	90	78	—

TABLE 22 —UNIVERSITY STUDENTS, 1937-8

INSTITUTIONS	FULL TIME STUDENTS			PART TIME STUDENTS			STUDENTS TAKING COURSES NOT OF A UNIVERSITY STANDARD	STUDENTS ATTENDING EXTRA-MURAL CLASSES	GRAND TOTAL
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL			
Aberdeen University	296	319	1,115	31	5	10	129	813	2,155
Edinburgh University	2,316	826	1,174	111	69	180	—	2,705	6,359
Glasgow University	3,238	1,014	1,262	199	19	616	—	908	6,078
Glasgow Royal Technical College	167	81	496	1,161	53	2,191	827	—	9,810
St Andrews University, including Dundee University College	150	128	885	71	17	91	—	131	1,407
Total	7,106	2,516	9,961	3,190	103	3,022	955	4,887	19,118

For Educational Expenditure see Table 2 on page 109

SECTION THREE

STATISTICS NORTHERN IRELAND

(See also YEAR BOOK, 1938, page 68)

TABLE 23—NUMBER OF PUPILS BY AGE, SEX AND TYPE OF INSTITUTION, 1937

AGES	ESTI- MATED POPULA- TION JANUARY 31st, 1934	PRIMARY SCHOOLS		SECONDARY		TOTAL BOTH SEXES	OTHER SCHOOLS ¹		
		BOYS	GIRLS	BOYS	GIRLS		BOYS	GIRLS	TOTAL
							AIDED ¹		
							PRIVATE PREPARATORY AGES 6-12		
							902	1,877	2,339
4- 5	23,000	9,243	2,267	—	—	4,506	JUNIOR TECHNICAL (13-16)		
5- 6	23,000	8,332	6,187	—	—	12,519	1,009	156	1,165
6- 7	22,883	10,685	10,359	—	—	21,044	JUNIOR COMMERCIAL (13-18)		
7- 8	23,333	11,111	10,870	—	—	21,983	700	1,074	1,388
8- 9	24,345	11,060	10,708	—	—	21,760	TECHNICAL SCHOOLS PART TIME		
9-10	23,627	11,175	10,731	1,049	1,129	60,214	10,117	12,261	22,368
10-11	21,145	11,348	10,759				AGRICULTURAL FULL TIME ¹		
11-12	25,588	11,759	10,661	610	610	22,525	OVER 18		
12-13	24,800	10,788	10,617	1,110	1,098	21,079	11	171	215
13-14	21,775	9,750	9,121	1,244	1,197	7,283	AGRICULTURAL PART TIME CLASSES ¹		
14-15	27,110	11,482	2,315	1,055	1,054	2,826	OVER 16		
15-16	22,181	115	772	855	781	1,636	311	348	679
16-17	20,087	30	70	557	521	1,081	UNIVERSITIES ¹		
17-18	10,600			210	249	495	1,231	378	1,009
18-20	—	—	—	—	—	—	COLLEGE OF DOMESTIC ECONOMY ¹		
	—	99,086	99,261	0,715	6,908	—	—	70	70
	—	194,917	—	17,687	—	208,070	TRAINING COLLEGES		
6-11	198,114	87,681	91,021	2,760	1,137	177,011	MEN	WOMEN	TOTAL
11-18	50,887	2,527	2,787	1,700	5,682	12,896	06	197	203

¹ Figures for 1936

TABLE 24—COMPARATIVE FINANCE, 1937

	STATE	LOCAL AUTHORITIES	TOTAL	%	TEACHERS' SALARIES
Administration	£ 65,886	£ 15,601	£ 101,257	1.5	
Primary	1,181,003	100,049	1,188,242	8.6	Average Primary
Secondary	172,117	21,841	204,909	9.0	Men £257
Technical	78,198	119,011	198,799	8.6	Women £286
University	40,000	11,727	11,727	2.0	
Teachers' Training	21,001	—	21,001	1.0	Secondary
Superannuation of Teachers	91,000	—	91,000	1.0	Basic Scale
All Others	2,577	110,882	118,459	5.0	Men £210
Grants to L.E.A.s	180,378	Deduct	—	—	Women £200
Grants from Ministry of Home Affairs and Labour	62,731	244,109	—	—	Preparatory £150
Total	2,095,267	168,296 ¹	2,250,563	100	Average £214
Percentage of Total	93	7.0	100	—	Technical
Add contribution paid to Exchequer by County and Borough Councils under Section 8 of Finance Act (N.I.), 1934	Deduct £110,000	140,000	—	—	Average £125
Corrected Total	1,985,267	208,296	2,250,563	—	
Percentage	87	18	100	—	

¹ Fees and other internal income are included, with the exception of the University, of which no data are available

SECTION FOUR

STATISTICS CANADA¹

(See also YEAR BOOK, 1938, pages 69-74)

TABLE 25 — MARITIME PROVINCES, 1937 PRINCE EDWARD ISLAND, NOVA SCOTIA AND NEW BRUNSWICK

AGES	POPULATION CENSUS 1931	PROVINCIAALLY CONTROLLED SCHOOLS			OUTSIDE OF PROVINCIAALLY CONTROLLED SCHOOLS						
		BOYS	GIRLS	TOTAL BOTH SEXES	SCHOOLS	PUPILS					
						MALE	FEMALE	TOTAL			
7-10	68,596	8,438	8,719	17,181	<i>Private Schools</i> In Primary Grades In Secondary Grades Business Training Schools	2,108	2,861	3,961			
6-7	25,129								2,018		
7-8	22,985								10,200	10,211	20,411
8-9	28,068								11,970	10,806	22,136
9-10	25,897								11,404	11,037	22,447
10-11	24,100	11,132	11,001	22,183	Total, Private	2,521	4,729	7,250			
11-12	24,008	11,481	11,111	22,611							
12-13	22,681	11,501	11,150	22,650	<i>Universities</i> In Secondary Grades In University Grades Miscellaneous	928	341	1,270			
13-14	21,893	10,921	10,604	21,525							
14-15	21,019	9,912	9,706	19,618							
15-16	20,995	7,895	8,119	16,011							
16-17	21,610	4,911	5,802	10,736							
17-18	21,606	2,798	3,525	6,124	Total, Universities	10,162	5,127	15,589			
18-19	21,196	1,215	1,602	2,797							
19-21	38,253	699	836	1,535	<i>Domestic Indian Schools</i>	390	417	807			
Total 1937	998,961	113,900	111,328	225,228	<i>Provincial Schools</i> Correspondence Courses Special Schools Normal Schools Evening Classes	—	—	802			
Total 1936	—	112,780	113,100	225,880		—	—	111			
						1,18	590	754			
						—	—	5,347			
7-14	101,600	77,959	70,075	148,034							
14-18	86,840	26,609	27,162	53,771							

TABLE 26 — QUEBEC, 1936

AGES	POPULATION CENSUS 1931	PUPILS IN ALL SCHOOLS		TOTAL BOTH SEXES	INCLUDED IN PREVIOUS TOTALS			
		BOYS	GIRLS		In Secondary Grades		48,527	
					In Private Schools		55,776	
					NOT INCLUDED IN PREVIOUS TOTALS	MALE	FEMALE	TOTAL
3-7	290,808	81,165	32,573	64,038				
7-14	455,189	237,141	235,719	472,490	Evening Classes	—	—	17,434
14-18	120,388	31,966	34,480	66,446	Special Schools	—	—	1,481
18-21	121,989	11,323	18,095	29,421	Normal Schools	1,050	2,447	3,497
	173,884	2,300	2,241	4,541	Business Training Schools	—	—	3,218
					Domestic Indian Schools	823	823	1,646
Total 1936	1,172,318	317,085	317,711	634,796	Universities			
Total 1935		313,900	315,081	629,080	Secondary Grades	8,896	1,375	13,200
					University Grades	9,737	1,461	11,228
					Miscellaneous	1,939	4,124	6,073
7-14	465,189	237,141	235,349	472,490	Total, Universities	20,572	9,098	30,570
11-18	242,377	40,379	17,578	57,847				

¹ The old 8-4 division of grades has lately been so upset that it does not seem advisable at present to give separate figures for primary and secondary students in tables 1-4, as has been done in previous editions of the YEAR BOOK.

TABLE 27—ONTARIO, 1936

AGES	POPULATION CENSUS 1931	PROVINCIALY CONTROLLED SCHOOLS			OUTSIDE OF PROVINCIALY CONTROLLED SCHOOLS						
		BOYS	GIRLS	TOTAL BOTH SEXES	SCHOOLS	PUPILS					
						MALE	FEMALE	TOTAL			
3-6	152,161	6,820	7,951	14,081	Private Schools In Primary Grades In Secondary Grades Business Training Schools	4,872	7,074	4,254			
7-8	66,493	22,182	17,704	39,976							
7-9	66,006	30,424	28,682	59,008							
5-9	67,079	31,728	32,115	63,873							
9-10	67,887	11,667	30,509	42,266	Total, Private	6,772	12,822	19,594			
10-11	66,825	35,701	32,039	67,710							
11-12	66,210	34,651	32,776	67,426	Universities In Secondary Grades In University Grades Miscellaneous	2,092	167	2,259			
12-13	65,094	34,728	31,908	66,686							
13-14	66,061	32,662	31,923	64,585					12,079	6,166	18,245
14-15	61,585	28,228	27,508	55,826					5,267	1,898	10,165
10-16	61,235	27,881	27,041	54,915	Total, Universities	19,418	11,231	30,649			
16-17	60,201	14,081	11,674	25,755							
17-18	61,711	0,082	8,944	18,016	Dominion Indian Schools	2,202	2,873	4,075			
18-19	60,062	5,768	5,453	11,181							
19-21	121,117	6,362	4,201	9,563	Provincial Schools Correspondence Courses Special Schools Normal Schools Evening Classes	—	—	2,000			
Total	1,157,280	711,660	720,016	1,431,706							
18-6	—	811,086	802,133	1,613,219							
Total	—	811,086	802,133	1,613,219							
7-11	158,611	228,176	230,151	458,327		115	975	1,290			
11-18	204,866	76,172	71,210	147,382							

TABLE 28—PRAIRIE PROVINCES, 1936 MANITOBA, SASKATCHEWAN AND ALBERTA

AGES	POPULATION CENSUS 1931	PROVINCIALY CONTROLLED SCHOOLS			OUTSIDE OF PROVINCIALY CONTROLLED SCHOOLS			
		BOYS	GIRLS	TOTAL BOTH SEXES	SCHOOLS	PUPILS		
						MALE	FEMALE	TOTAL
3-6	117,470	1,007	1,109	2,115	Private Schools In Primary Grades In Secondary Grades Business Training	1,512	0,170	7,020
7-8	50,550	11,081	12,745	23,826				
7-8	49,326	20,191	22,770	42,961				
8-9	50,501	21,536	21,106	42,642				
9-10	49,768	24,762	24,929	49,691	Total, Private	6,463	10,046	16,509
10-11	50,916	25,021	21,363	46,384				
11-12	49,683	25,074	24,710	50,084	Universities In Secondary Grades In University Grades Miscellaneous	1,375	609	1,984
12-13	53,667	25,629	25,164	50,792				
13-14	51,772	25,806	25,455	51,261				
14-15	54,896	25,460	24,626	50,086				
15-16	52,612	20,043	19,597	39,640	Total, Universities	8,663	4,196	12,759
16-17	54,897	12,230	12,075	24,305				
17-18	49,568	7,379	8,012	15,391	Dominion Indian Schools	1,298	4,625	5,923
18-19	51,209	4,221	4,511	8,732				
19-21	98,088	8,768	5,779	14,547	Provincial Schools Correspondence Courses Special Schools Normal Schools Evening Classes	—	—	13,411
Total 1936	911,761	461,503	458,203	919,706				
Total 1936	—	263,816	250,680	514,496				
7-11	155,845	174,311	170,655	344,966				
14-18	211,903	66,112	66,271	132,383				6,585

TABLE 29—BRITISH COLUMBIA, 1936

AGES	POPULATION CENSUS 1931	PROVINCIAL CONTROLLED SCHOOLS			OUTSIDE OF PROVINCIAL CONTROLLED SCHOOLS			
		BOYS	GIRLS	TOTAL BOTH SEXES	SCHOOLS	PUPILS		
						MALE	FEMALE	TOTAL
5-6	32,686	40	48	73	<i>Private Schools</i>			
6-7	11,125	2,429	2,115	4,544	• In Primary Grades			
7-8	11,791	4,731	4,739	9,470	In Secondary Grades	1,990	2,687	4,677
8-9	12,165	4,901	4,879	9,780	Business Training Schools	610	1,837	2,447
9-10	12,637	5,055	4,955	10,010				
10-11	12,229	5,271	5,117	10,388	Total, Private	2,615	4,524	7,139
11-12	12,160	5,391	5,217	10,608				
12-13	11,434	5,050	5,236	10,286	<i>Universities</i>			
13-14	10,892	5,611	5,140	10,751	In Secondary Grades	5	—	5
14-15	11,808	5,898	5,602	11,500	In University Grades	2,189	1,061	3,250
15-16	12,095	5,819	4,918	10,737	Miscellaneous	9	2	11
16-17	12,002	4,002	3,815	7,817				
17-18	12,000	2,390	2,361	4,751	Total, Universities	2,198	1,063	3,261
18-19	12,815	1,842	1,239	3,081	<i>Domestic Indian Schools</i>	1,923	2,011	3,934
19-21	24,022	789	670	1,459				
Age not specified	—	610	478	1,088	<i>Provincial Schools</i>			
Total	214,091	59,537	57,195	116,732	Correspondence Courses	—	—	3,380
7-14	81,808	30,790	35,703	66,493	Special Schools	56	36	92
14-18	49,503	17,618	16,757	34,375	Normal Schools	64	132	196
					Evening Classes	—	—	19,283

TABLE 30—TEACHERS, 1937 PROVINCIAL CONTROLLED SCHOOL SYSTEMS

	PRINCE EDWARD ISLAND	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC ¹	ONTARIO ¹	MANI- TOBA	SAS- KATCHEWAN	ALBERTA	BRITISH COLUMBIA
Men	197	561	501	4,289	5,065	1,170	2,404	2,090	1,490
Women	407	3,150	2,495	19,480	15,890	4,288	4,858	4,064	2,529
Total	604	3,711	2,996	24,478	21,515	4,458	7,262	6,154	4,019
Percentage of Women	70	88	83	80	71	74	66	66	61
Certificated Teachers	604	3,711	2,901	12,971 ²	21,515	4,458	7,302	6,180	4,025
Percentage of Certificated Teachers	100	100	97	53	100	100	100	100	100
University Graduates	25	600	280	no data	3,823	775	738	no data	1,212
Percentage of Graduates	4	16	9		18	17	10		30
Average Annual Salary in Dollars ³									
Men	613	1,019	705	920	1,717	770	635	1,111	1,491
Women	399	699	568	400	1,117	683	522	932	1,162
Ratio of Teachers' Salaries to Total Current Revenue of School Boards									
Percentage	79.0	74.6	75.5	54.3	68.0	57.4	55.5	62.5	63.6

¹ 1936² In Quebec 11,125 nuns and brothers are not required to hold provincial certificates³ The averages for New Brunswick, Manitoba, Saskatchewan and British Columbia are medians, those for the other provinces are means

TABLE 31—COMPARATIVE FINANCES, 1937, IN DOLLARS

SOURCES	DOMINION	PROVINCES	COUNTIES	LOCAL UNITS	ENDOW- MENTS	FEES	OTHER SOURCES	TOTAL	PERCENTAGE
Administration	69,900	5,947,680	—	—	—	—	—	6,017,580	4.5
Provincially Controlled Schools	68,104	14,831,172	2,897,367	83,227,545	—	1,352,816	—	102,377,004	76.7
Agricultural Schools	—	401,255	—	—	—	—	93,324	499,579	0.4
Schools for the Blind and Deaf	—	609,499	—	—	—	14,288	60,585	684,472	0.5
Schools for Delinquents	—	782,351	—	—	—	—	308,340	1,090,691	0.8
Normal Schools	—	1,181,894	—	—	—	255,902	—	1,437,796	1.1
Universities and Colleges	436,538	5,310,628	—	—	2,105,151	5,791,491	5,478,977	19,632,785	14.7
Indian Schools	1,692,444	—	—	—	—	—	—	1,692,444	1.3
Total	2,966,986	29,564,479	2,897,367	83,227,545	2,105,151	7,414,497	5,946,326	183,422,351	100
Percentages, 1937	1.7	22.2	2.2	63.4	1.6	5.5	4.4	100	
Percentages, 1936	1.7	21.1	2.5	63.4	1.5	5.2	4.6	100	

BY PROVINCES									
Prince Edward Island	1,883	382,697	—	—	181,236	900	30,021	607,829	17.3
Percentages	0.3	63.0	—	—	29.8	0.2	4.9	100	
Nova Scotia	73,415	1,430,626	477,265	2,690,733	212,594	363,089	467,532	5,615,264	13.0
Percentages	1.3	25.5	8.5	46.1	3.8	6.3	8.3	100	
New Brunswick	17,429	892,124	224,451	2,077,475	38,702	144,486	221,077	3,615,744	11.4
Percentages	0.5	24.7	6.2	57.4	1.1	4.0	6.1	100	
Quebec	69,483	5,165,193	—	18,575,530	1,050,434	2,748,703	2,631,519	30,240,862	11.3
Percentages	0.2	17.1	—	61.4	3.5	9.1	8.7	100	
Ontario	806,939	10,880,808	2,195,651*	33,548,155*	693,070	2,389,435	1,856,960	52,371,018	14.9
Percentages	1.5	20.8	4.2	64.1	1.3	4.6	3.5	100	
Manitoba	232,395	1,803,617	—	6,091,095	59,027	451,023	187,618	8,824,775	11.8
Percentages	2.6	20.5	—	69.0	0.7	6.0	2.1	100	
Saskatchewan	352,345	2,915,199	—	6,307,000*	5,141	430,482	229,118	10,239,285	16.5
Percentages	3.4	28.5	—	61.6	0.1	4.2	2.2	100	
Alberta	316,616	2,763,195	—	7,540,419*	26,798	527,446	193,206	11,367,680	14.2
Percentages	2.8	24.3	—	66.3	0.2	4.7	1.7	100	
British Columbia	396,481	3,331,130	—	6,315,902	18,465	348,641	129,275	10,539,904	13.1
Percentages	3.8	31.6	—	59.9	0.2	3.3	1.2	100	

1 1936 7 1937

SECTION FIVE

STATISTICS · AUSTRALIA

(See also YEAR BOOK 1938, pages 75-81)

TABLE 32—NEW SOUTH WALES, AUGUST 1936

AGES	POPULATION CENSUS 1933		PRIMARY		SUPER-PRIMARY AND SECONDARY		SENIOR TECHNICAL		TOTAL BOTH SEXES	OTHER SCHOOLS
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	MALE	FEMALE		
3-6	132,367	10,704	10,077	—	—	—	—	—	20,781	UNIVERSITY Total 3,206
6-7	47,896	17,342	16,263	—	—	—	—	—	33,605	
7-8	49,542	20,353	18,998	—	—	—	—	—	39,351	
8-9	50,430	20,922	19,346	—	—	—	—	—	40,268	TEACHERS' TRAINING Total 1,005
9-10	49,257	20,096	19,111	—	—	—	—	—	39,207	
10-11	50,448	21,016	19,649	—	6	—	—	—	40,686	
11-12	51,242	20,130	19,267	724	757	—	—	—	40,878	INSTITUTION FOR DEAF AND BLIND Total 189 ¹
12-13	50,464	14,772	13,800	5,912	5,662	—	—	—	33,267	
13-14	52,075	7,886	6,601	12,237	11,543	—	—	—	22,095	
14-15	51,983	1,480	1,167	10,127	8,273	—	—	—	10,788	EVENING CONTINUATION Total 4,117
15-16	52,363	123	120	5,131	3,320	—	—	—	5,461	
16-17	47,267	21	17	1,626	997	—	—	—	3,533	
17-18	46,385	4	5	502	286	—	—	—	3,385	KINDERGARTENS (AIDED) Total 870
18-20	97,145	1	1	221	96	—	—	—	4,788	
OVER							5,751	2,468	8,219	
TOTAL	828,864	154,850	144,422	36,495	30,942	—	14,995	6,669	388,073	PRIVATE SCHOOLS ¹ Total 92,750
BOTHSEXES		299,272		67,437			21,364		312,408	BUSINESS COLLEGES ¹ Total 5,388
	6-14	401,354	142,517	133,035	18,883	17,968	—	—	42,177	
	14-18	197,998	1,628	1,309	17,886	12,873	5,559	3,417		

RATIO OF PUPILS TO TOTAL POPULATION

17 per cent 14-16 50 per cent
98 " 16-18 16 "

¹ Figures for 1935

TABLE 33—VICTORIA, ENROLMENT, DECEMBER 1936¹

AGES	PUBLIC				PRIVATE SCHOOLS	TOTAL	OTHER SCHOOLS
	POPULATION CENSUS 1933	PRIMARY	POST PRIMARY				
			GENERAL	VOCATIONAL			
1-6	80,781	16,137	—	—	6,208	22,545	
6-14	201,281	191,933	11,067	6,710	57,685	266,395	
Over 14	191,047	11,375	10,209	6,866	15,900	41,080	
Total	511,109	219,645	21,376	13,506	79,793	333,020	
Boys	—	113,600	11,296	7,141	37,615	169,395	Senior Technical 22,515 Teachers' College 3,734 University 3,514
Girls	—	106,045	9,980	6,103	42,178	163,363	Kindergartens 1,782 Business Colleges 5,160
RATIO OF PUPILS TO POPULATION ²							
3-6, 25 per cent, 6-14, 100 per cent, 14-16, 66 per cent, 16-18, 86 per cent							

¹ The numbers in each age group in Victorian schools are not obtained by a proper census, but are the totals of children enrolled throughout the year classified by age at December 31st. This method naturally leads to duplications. Further, since the percentages of children in the age range above 11 years are now being calculated, we have not given the data by years for post primary schools, as it is only misleading. The enrolments given last year were the enrolments by years at July 1st for post primary schools, and by age ranges at December 31st for primary or private.

² Approx.

³ 1916

TABLE 34—TASMANIA, JULY 1936

AGES	POPULATION CENSUS 1933	PUBLIC SCHOOLS			PRIVATE SCHOOLS	TOTAL	OTHER SCHOOLS
		PRIMARY	GENERAL POST PRIMARY	TOTAL			
3-6	13,029	1,128	—	4,128	943	5,071	
6-7	4,825	—	—	—	—	—	
7-8	4,011	5,501	—	5,501	—	—	
8-9	4,723	5,786	—	5,786	—	—	
9-10	1,066	5,801	—	5,801	—	—	
10-11	1,027	3,817	—	4,847	—	—	
11-13	4,841	3,350	21	3,811	4,281	20,166	
13-18	4,705	5,069	177	3,816	—	—	Vocational 344
14-16	1,063	5,079	430	5,609	—	—	Technical 2,002
16-17	1,330	—	—	—	1,607	3,463	Teachers' College 73
17-18	4,441	908	1,015	1,053	—	—	University 810
18-20	4,495	—	—	—	—	—	Kindergartens 85
Total	78,288	80,629	1,678	32,302	5,784	—	Business College 502
7-14	28,033	25,503	628	22,630	3,234	—	Correspondence 318
Over 14	17,715	908	1,015	1,965	1,607	—	

TABLE 35—WESTERN AUSTRALIA, JULY 1936

AGES	PUBLIC SCHOOLS										PRIVATE SCHOOLS 1934	OTHER INSTITUTIONS
	POPULATION CENSUS 1933	PRIMARY CENTRAL		HIGH SCHOOLS		TECHNICAL		TOTAL				
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS		BOTH SEXES			
2-6	23,551	980	948	—	—	—	—	1,928	698	703	Teachers' College Agricultural School University Kindergartens Business Colleges	
6-7	8,451	2,448	2,143	—	—	—	—	4,591				
7-8	8,206	2,048	2,054	—	—	—	—	4,102				
8-9	8,379	3,450	3,337	—	—	—	—	6,787	4,197	5,077		
9-10	8,149	3,607	3,281	—	—	—	—	6,788				
10-11	8,231	3,641	3,350	—	—	—	—	6,991				
11-12	8,109	3,382	3,185	—	—	—	—	6,567	3,090	4,146		
12-13	7,975	2,437	2,071	—	—	—	—	4,502				
13-14	8,233	9,234	2,862	201	146	—	—	6,443				
14-15	8,117	1,478	1,228	174	210	—	—	3,090	1,106	1,332	RATIO OF PUPILS TO TOTAL POPULATION 2-6 16 per cent 6-14 98 14-16 40 16-18 22	
15-16	8,801	410	248	186	120	—	—	4,146				
17-18	7,800	68	111	99	95	1,598	1,112	2,710				
19-21	6,807	—	—	54	49	—	—	1,003	6,061	7,171		
21-23	22,974	—	—	12	6	1,008	299	1,285				
Total	163,322	30,771	28,190	740	682	2,606	1,571	61,360				
6-14	63,742	27,837	28,857	235	193	—	—	53,911	9,274	2,498		
14-18	31,025	1,954	1,862	493	494	1,598	1,112	7,236				

TABLE 36—QUEENSLAND, JULY 1934¹

AGES	POPULATION CENSUS 1933	PUBLIC SCHOOLS		AIDED AND PRIVATE SCHOOLS		TOTAL BOTH SEXES	SCHOOLS	BOYS	GIRLS	TOTAL
		BOYS	GIRLS	BOYS	GIRLS					
3-6	54,273	5,901	5,444	1,179	1,168	13,692	<i>Secondary included in previous totals</i>	—	—	3,040
6-7	18,037	7,641	7,161	1,363	1,353	17,448		—	—	209
7-8	18,868	7,783	7,228	1,221	1,393	17,625		—	—	1,600
8-9	18,017	8,059	7,493	1,235	1,490	18,277		—	—	1,700
9-10	18,346	8,113	7,737	1,248	1,432	18,530	High Schools	—	—	—
10-11	19,039	7,956	7,513	1,228	1,485	18,412	Agricultural College	—	—	—
11-12	19,098	8,297	7,407	1,225	1,483	18,412	State Grammar Schools	1,100	500	—
12-13	19,543	8,157	7,290	1,280	1,515	18,251	State Scholars in Private Schools	—	—	—
13-14	17,728	6,945	6,176	1,387	1,482	16,091	<i>Other Schools not included in previous totals²</i>	—	—	—
14-15	17,457	2,633	2,040	1,198	1,219	7,090		—	—	—
15-16	18,190	757	643	926	863	3,189		—	—	—
16-17	17,557	277	203	489	527	1,496	Correspondence	209	169	5,767
17-18	17,767	97	74	221	217	609	Teachers' Training	7,273	5,267	12,540
18-20	37,081	104	50	137	194	365	Technical College	—	—	253
Total	319,001	72,721 ²	66,468 ²	14,337	15,721	169,247	Evening Classes	—	—	235
6-14	149,676	62,952	55,014	10,187	11,603	142,756	Teachers' Correspondence	—	—	1,029
14-18	70,971	3,764	2,960	2,334	2,896	12,384	University	—	—	1,241
							Kindergartens (aided)	695	548	998
							Business Colleges (private)	275	275	1,273

RATIO OF PUPILS TO TOTAL POPULATION

3-6	27 per cent	14-16	33 per cent
6-14	96 "	16-18	23 "

¹ No detailed figures available since this date² Enrolment for 1936 State, primary, both sexes, 141,854, State Intermediate Schools, both sexes, 3,037, State High Schools, both sexes, 3,896³ 1936 Technical schools, full-time, 3,658, part-time, 11,523, University, male 885, female 260, Teachers' Training College, 440, Teachers' Correspondence, 319, Private Schools, 32,538, Kindergartens, 563, Business Colleges, 548

TABLE 37 —SOUTH AUSTRALIA, DECEMBER 1936

AGES	POPULATION CLASSES 1932	PRIMARY		POST PRIMARY				TECHNI- CAL	TOTAL	OTHER INSTITUTIONS
		BOYS	GIRLS	VOCATIONAL		GENERAL				
				BOYS	GIRLS	BOYS	GIRLS	BOTH SEXES	BOTH SEXES	
3-6	25,649	908	949	—	—	—	—	—	1,857	Private Schools ¹ 13,573
6-7	9,437	3,602	3,336	—	—	—	—	—	6,938	Teachers' College 195
7-8	10,054	4,298	3,917	—	—	—	—	—	8,215	University 2,025
8-9	10,454	4,477	4,178	—	—	—	—	—	8,655	Kindergartens 395
9-10	10,468	4,558	4,280	—	—	—	—	—	8,838	Business Colleges 1,779
10-11	10,684	4,742	4,479	—	—	—	—	—	9,221	
11-12	10,948	4,573	4,485	—	—	—	—	—	9,058	
12-13	10,771	4,706	4,334	8	60	56	33	—	9,197	
13-14	11,057	3,423	3,316	256	249	607	533	173	8,559	
14-15	11,293	887	830	309	322	1,055	846	195	4,444	
15-16	11,412	123	82	80	151	777	633	324	2,170	
16-17	10,640	19	8	16	60	394	307	455	1,259	
17-18	10,303	—	—	4	10	156	92	500	762	
18-20	21,440	—	—	—	2	90	32	2,279	2,403	
Total	174,610	36,316	34,194	673	854	3,135	2,476	3,928	81,576	
6-14	83,873	34,379	32,325	264	309	663	566	175	68,681	
14-18	43,648	1,029	920	100	543	2,382	1,878	1,874	8,726	

¹ Includes 12,110 between 6 and 14 years

RATIO OF PUPILS TO TOTAL POPULATION

3-6 10 per cent

6-14 97 "

14-16 40 "

16-18 14 "

¹ Includes 12,110 between 6 and 14 years

TABLE 38 —TEACHERS, 1936

INSTITUTIONS	NEW SOUTH WALES		VICTORIA		QUEENSLAND		SOUTH AUSTRALIA		WESTERN AUSTRALIA		TASMANIA		TOTAL PER CENTAGE OF WOMEN
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN	
<i>Primary Schools</i>													
Classified	3,742	3,535	2,750	3,044	2,093	1,722	959	877	680	974	264	312	49
Unclassified	609	898	500	835	232	332	175	268	101	227	36	308	64
(Graduates included)	353	323	184	10	67	39	52	5	92	136	23	8	40
Total	4,251	4,433	3,250	3,879	2,325	2,054	1,134	1,145	781	1,201	300	620	52
<i>Secondary</i>													
Classified	839	544	724	406	63	36	153	106	45	26	44	48	38
(Graduates included)	719	520	309	242	52	27	104	66	42	22	27	19	45
<i>Manual Domestic Arts</i>													
Special Teachers	301	390	74	192	Not classified separately		40	60	38	41	3	5	—
<i>Technical Schools</i>													
Full-time	130	75	643		139	127	41	11	21	14	36	7	—
Part-time	457	10	499		103	9	54	33	73	19	No data		—
SALARIES OF CLASSIFIED TEACHERS, 1936, IN £'s													
<i>Primary</i>													
Maximum	754	605	600	480	640	390	622	375	610	484	675	380	—
Minimum	265	212	156	120	155	135	242	145	242	194	220	190	—
<i>Secondary</i>													
Maximum	815	652	650	528	700	500	677	382	630	412	685	350	—
Minimum	408	326	192	168	215	155	242	155	310	252	220	190	—

TABLE 39—EXPENDITURE ON EDUCATION, 1936, in £'s

	NEW SOUTH WALES				VICTORIA				QUEENSLAND			
	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE
Administration	167,165	—	167,165	2.4	70,196	—	70,196	2.4	50,509	—	50,509	2.6
Medical	30,516	—	30,516	4	14,970	—	14,970	4	18,580	—	18,580	9
Primary	8,108,337	—	8,108,337	69.2	1,826,720	—	1,826,720	69.9	1,408,888	—	1,408,888	74.7
Secondary	672,220	—	672,220	14.9	278,997	38,487	317,484	10.4	134,504	—	134,504	7.2
Technical	200,928	88,020	288,948	5.4	303,378	60,013	363,391	11.9	127,866	19,148	147,014	7.8
University	67,945	155,048	222,993	4.9	111,440	158,644	269,084	8.9	65,732	42,890	108,622	5.8
Teacher Training	67,086	—	67,086	1.5	20,008	—	20,008	6	18,284	—	18,284	9
Other Services	58,201	—	58,201	1.3	167,457	—	167,457	5.6	—	—	—	—
Total	4,302,332	193,068	4,495,400	100	2,792,166	254,124	3,046,290	100	1,824,413	61,948	1,886,369	100
Percentage	96	4.0	100		91.5	8.5	100		96.7	3.3	100	

	SOUTH AUSTRALIA				WESTERN AUSTRALIA				TASMANIA			
	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE	STATE	ENDOW- MENT AND FEES	TOTAL	PERCENT AGE
Administration	33,386	—	33,386	3.1	20,445	—	20,445	2.4	12,171	—	12,171	2.5
Medical	4,074	—	4,074	4	3,734	—	3,734	4	5,437	—	5,437	1.5
Primary	682,107	817	682,924	64.4	669,620	—	669,620	79.5	261,248	—	261,248	69.9
Secondary	105,414	6,511	111,925	10.6	45,323	—	45,323	5.4	35,630	—	35,630	9.3
Technical	51,859	3,249	55,108	5.2	24,169	5,897	30,066	3.6	22,619	2,619	25,238	6.7
University	43,850	71,487	115,337	10.8	36,966	7,375	44,341	5.2	12,989	5,974	18,963	5.4
Teacher Training	14,892	—	14,892	1.5	7,091	—	7,091	9	11,765	—	11,765	3.2
Other Services	42,159	—	42,159	4.0	21,744	—	21,744	2.6	1,033	—	1,033	2
Total	977,650	82,034	1,059,684	100	829,101	12,979	842,073	100	364,803	8,593	373,395	100
Percentage	93.3	7.7	100		98.4	1.6	100		97.9	2.1	100	

SECTION SIX

TABLE 40—STATISTICS UNION OF SOUTH AFRICA

(See also Year Book, 1938, pages 82-97)

All Institutions, Ages adjusted to June 1936 (Europeans only)

AGE	POPULATION	STATE AND STATE AIDED SCHOOLS			PRIVATE SCHOOLS		VOCATIONAL SCHOOLS	TECHNICAL COLLEGES		UNIVERSITIES		GRAND TOTAL
		PRIMARY	POST PRIMARY	TOTAL	PRIMARY AND POST PRIMARY			FULL TIME	PART TIME	FULL TIME	PART TIME	
-7	—	23,171	—	23,171	5,223	—	—	—	—	—	—	38,394
7	42,374	36,043	—	36,043	2,026	—	—	—	—	—	—	38,669
8	41,760	38,574	—	38,574	1,876	—	—	—	—	—	—	40,450
9	40,663	38,238	—	38,238	1,808	—	—	—	—	—	—	40,450
10	41,023	38,488	—	38,488	1,790	—	—	—	—	—	—	40,278
11	40,081	37,417	50	37,467	1,558	—	—	—	—	—	—	39,325
12	39,686	36,420	724	37,144	1,826	—	—	—	—	—	—	38,970
13	39,945	31,886	6,314	37,200	1,846	10	—	—	—	—	—	39,006
14	41,064	21,630	12,884	34,514	1,905	97	474	254	—	—	—	37,244
15	40,308	11,095	15,106	26,201	1,879	330	900	420	4	16	—	29,750
16	38,639	2,851	10,965	13,816	1,628	569	1,104	1,470	88	18	—	18,700
17	38,636	586	6,283	6,869	1,076	546	890	2,327	530	45	—	12,283
18	37,875	108	2,519	2,627	580	395	545	2,866	1,251	137	—	8,401
19 and over	—	30	943	973	641	287	—	750	11,819	4,812	1,474	20,755
Total	—	317,137	54,788	371,925	25,962	2,234	4,663	19,156	6,095	1,687	—	432,322
7-13	285,282	257,666	6,088	263,754	18,253	10	—	—	—	—	—	276,794
14-18	156,547	36,162	45,238	81,400	6,488	1,542	3,368	4,471	632	76	—	97,977

Ratio of pupils to total population 7-13, 97 per cent, 14-18, 62 per cent

Other Schools

Provincial Training Colleges, 2,179

Union Schools

Continuation classes, 2,308 (average enrolment)

Institutions under Children's Protection Act, 6,069

TABLE 41—NUMBER OF SCHOLARS IN PRIMARY
AND POST-PRIMARY SCHOOLS, 1936

1 *State and State-aided Schools*
Europeans only

GRADES	CAPT. OF GOOD HOPE	NATAL	TRANS- VAAL	ORANGE FRED. STATE	THE UNION TOTAL
1 Primary Classes					
Male	66,691	12,566	65,788	18,666	163,711
Female	62,411	11,356	60,650	17,388	151,805
2 Secondary Classes					
Male	12,964	2,205	10,502	4,204	29,875
Female	10,889	1,780	7,890	3,593	24,152
3 Primary and Secondary Classes					
Male	79,655	14,771	73,290	22,870	193,586
Female	73,300	13,136	68,540	20,981	175,957

2 *Private Schools*
Europeans only

1 Kindergarten					
Male	111	235	509	24	879
Female	98	203	382	23	706
2 General Primary					
Male	1,046	478	1,696	49	3,269
Female	786	168	846	38	1,828
3 Secondary and Higher					
Male	3,488	1,078	3,098	112	7,776
Female	3,680	1,361	4,427	287	9,755
4 Commercial and Business					
Male	36	—	811	4	358
Female	178	—	1,129	61	1,050
5 Other					
Male	5	—	64	—	272
Female	5	—	331	—	69

3 *State and State-aided Schools*
Non-European

1 Natives Pupils Schools	175,661 ¹ 1,768	66,283 692	86,386 696	30,467 266	— —
2 Coloured Pupils Schools	103,097 ¹ 805	3,013 25	8,032 51	1,188 —	— —
3 Indian Pupils Schools	— —	21,772 ¹ 96	2,021 13	— —	— —

¹ *Enrolment at end of fourth quarter*

² *Enrolment in June*

TABLE 42—TEACHERS BY SEX AND QUALIFICATIONS, 1936

1 State and State-aided Schools

QUALIFICATIONS	CAPE				MATRAL				TRANSVAAL				O F S		THE UNION	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Certificated Percentage	2,570	4,000	425	876	3,114	2,806	1,075	927	7,184	8,609	7,184	8,609	927	927	7,184	8,609
Uncertificated Percentage	98 7	98 4	91 6	89 8	99 3	95 8	96 8	95 4	96 2	96 3	96 2	96 3	95 4	95 4	96 2	96 3
Graduates (Included) Percentage	35	65	39	99	21	122	35	45	130	331	130	331	45	45	130	331
	1,018	597	202	205	1,127	587	435	132	2,778	1,521	2,778	1,521	132	132	2,778	1,521
	39 1	14 7	43 5	21 0	35 9	20 0	38 8	13 6	38 0	17 0	38 0	17 0	13 6	13 6	38 0	17 0
SALARIES																
Primary Principals	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£	£
Minimum	135	120	380	240	450	335	375	270	—	—	—	—	—	—	—	—
Maximum	675	450	700	495	750	585	675	510	—	—	—	—	—	—	—	—
Assistants	135	120	180	150	240	200	170	160	—	—	—	—	—	—	—	—
Maximum	405	270	—	—	420	315	460	350	—	—	—	—	—	—	—	—
Secondary Principals	450	310	625	480	625	480	400	285	—	—	—	—	—	—	—	—
Minimum	675	450	900	625	925	720	825	650	—	—	—	—	—	—	—	—
Assistants	150	135	—	—	240	200	300	260	—	—	—	—	—	—	—	—
Maximum	450	360	—	—	580	435	550	410	—	—	—	—	—	—	—	—
2 Private Schools																
Certificated Percentage	388	140	343	29	343	29	67 4	900	—	—	—	—	—	—	—	—
Uncertificated Percentage	64 9	58 6	55 8	14	55 8	14	67 4	60 2	—	—	—	—	—	—	—	—
Graduates (included) Percentage	210	99	272	7	272	7	14	484	—	—	—	—	—	—	—	—
Percentage of Women	35 5	38 9	28 0	16 3	38 9	16 3	16 3	32 4	—	—	—	—	—	—	—	—
	70 9	71 9	76 4	90 7	76 4	90 7	90 7	73 9	—	—	—	—	—	—	—	—

TABLE 43—COMPARATIVE FINANCES, 1936-7

SOURCES	BY PROVINCIAL ADMINISTRATION (EXPENDITURE, SALARIES AND OTHERS)	BY L.N.O. GOVERNMENT (PAIDS)	REVENUE		TOTAL EXPENDITURE
			FEES, REVS, ETC	EMPLOYMENTS DONATIONS ETC	
Administration School Boards, School and Medical In- spectors (European) Interest and Redemption on Capital Ex- penditure	£ 70,148	£ 52,289	£ —	£ —	£ 122,437
Primary Education	228,883	—	—	—	228,883
Secondary Education	450,897	—	—	—	450,897
Technical Education	4,177,199	—	—	—	4,177,199
Universities and University Colleges	28,747,478	—	—	—	28,747,478
S.A. Native College	1,557,303	—	—	—	1,557,303
State-aided Special Schools	149,932	—	—	—	149,932
State-aided Special Schools under Children's Protection Act	268,154	28,000 ¹	—	—	296,160
Agricultural (including Forestry)	214,267	119,097 ¹	—	—	333,364
Museums, Libraries, Art Galleries, etc	383,900	287,133 ¹	—	—	671,033
Miners' Training Schools	7,035	6,086	—	—	13,121
Training Ship General Boats	61,366	—	—	—	61,366
State-aided Special Schools	44,182	—	—	—	44,182
State-aided Special Schools under Children's Protection Act	238,643	—	—	—	238,643
Museums, Libraries, Art Galleries, etc	247,924	—	—	—	247,924
Miners' Training Schools	38,180	—	—	—	38,180
Training Ship General Boats	27,650	—	—	—	27,650
State-aided Special Schools	12,000	—	—	—	12,000
State-aided Special Schools under Children's Protection Act	57,776	—	—	—	57,776
State-aided Special Schools	61,081,161	—	—	—	61,081,161
State-aided Special Schools	Deduct 6,108,161	—	—	—	—
State-aided Special Schools	" 405,515	—	—	—	—
Total Expenditure by Sources	1,452,940	7,775,578	849,739	176,467	10,254,724
Percentages of Total Expenditure	14.2	75.8	8.3	1.7	100

¹ For the Calendar Year, 1936² Excluding grants for Native education and roads³ Included in provincial expenditure of corresponding schools Fees are charged only in Cape and Natal in secondary gradesSECTION SEVEN
STATISTICS - NEW ZEALAND

(See also Year Book, 1938, pages 98-100)

TABLE 44—NUMBER OF PUPILS ON ROLL, ALL INSTITUTIONS, JULY 1st, 1937 (Whites only)

AGES	PUBLIC SCHOOLS						PRIVATE SCHOOLS						RE- T- MENT 1937			
	PRIMARY			SECONDARY			COMBINED			TECHNICAL				SECONDARY DIS- TRICT HIGH SCHO.		
	PRIMARY			SECONDARY			COMBINED			TECHNICAL				SECONDARY DIS- TRICT HIGH SCHO.		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL		BOYS	GIRLS	TOTAL
5-6	9,303	8,339	17,642	—	—	—	—	—	—	—	—	—	—	—	—	78,700
7	11,766	11,488	23,254	—	—	—	—	—	—	—	—	—	—	—	—	27,500
8	11,948	11,488	23,436	—	—	—	—	—	—	—	—	—	—	—	—	27,700
9	12,435	11,488	23,923	—	—	—	—	—	—	—	—	—	—	—	—	28,100
10	12,435	11,488	23,923	—	—	—	—	—	—	—	—	—	—	—	—	28,500
11	11,848	12,259	24,107	—	—	—	—	—	—	—	—	—	—	—	—	28,800
12	11,848	12,259	24,107	—	—	—	—	—	—	—	—	—	—	—	—	29,200
13	7,238	10,931	18,169	—	—	—	—	—	—	—	—	—	—	—	—	29,600
14	2,900	1,834	4,734	—	—	—	—	—	—	—	—	—	—	—	—	30,000
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30,400
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30,800
17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31,200
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31,600
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32,000
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32,400
Total	103,522	95,603	199,125	2,107	6,337	8,444	1,308	972	2,280	2,641	13,254	14,283	27,537	3,766	352,100	
Average Attendance	184,706	4,264	188,970	2,189	8,431	10,620	4,075	2,384	2,766	13,187	15,953	29,140	3,107			

Technical Training College, Nelson, 643

Other Schools—Nagardun, 1,687

Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹Natives—Native Village Schools, 9,041 (including 1,084 Europeans)¹

TABLE 45
PROBABLE DESTINATION OF PUPILS LEAVING PUBLIC POST-PRIMARY SCHOOLS—
AS A PERCENTAGE

YEAR	UNIVERSITY		TEACHERS AND TRAINING COLLEGE		CLERICAL		TRADES AND INDUSTRIES		SHOPS AND WAREHOUSES		FARMING		HOME		OTHER	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
1937	25	18	29	71	26.7	24.4	25.3	6.8	13.4	19.2	16.3	0.2	1.4	28.4	10.3	16.1
1934	3	2	1	2	18	15	25	7	17	13	20	—	9	42	13	20

TABLE 46
PROBABLE DESTINATION OF PUPILS LEAVING PUBLIC PRIMARY AND INTERMEDIATE
SCHOOLS AND DEPARTMENTS—AS A PERCENTAGE

YEAR	CONTINUED EDUCATION		COMMERCE		TRADES		AGRICULTURE		HOME		OTHER	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Primary—												
1937	62	63	5	4	6	1	16	1	3	23	6	6
1934	51	39	3	2	4	1	23	2	8	25	8	5
Intermediate—												
1937	76	71	7	7	6	2	—	—	3	14	—	6
1934	70	67	6	4	6	2	6	—	5	29	7	9

TABLE 47—TEACHERS IN PUBLIC SCHOOLS, 1937

SCHOOLS	MEN	WOMEN	TOTAL	CERTIFICATED	AVERAGE SALARY IN £'s			
					MEN		WOMEN	
					HEADS	ASSISTANTS	HEADS	ASSISTANTS
Primary	2,523	3,752	6,275	5,776	118	314	998	242
Intermediate	68	60	128		509	376	—	300
Special	8	18	24		—	—	—	—
Secondary	382	306	688		820	423	594	289
Combined	59	42	101		849	110	570	287
Technical	274	151	425	425	762	190	—	276
Secondary Departments of								
District High Schools	128	93	221	218	—	383	—	305
Native (Primary)	126	133	259	217	386	211	356	209
Totals	3,568	4,553	8,121	7,111				

The ratio to total expenditure on education, of salaries

In Primary Schools

11 per cent

In Post primary Schools

14 „

TABLE 48—NEW ZEALAND COMPARATIVE FINANCE IN £'s, YEAR ENDING MARCH 31ST, 1938

SOURCES	STATE	LOCAL BOARDS	ENDOW- MENTS, ETC	FEES	TOTAL	PER CENTAGE
Administration	12,007	61,841	—	—	107,748	2.2
Inspection	45,442	—	—	—	45,442	0.9
Primary Education	2,391,726	—	—	—	2,391,726	47.6
Post primary ¹	810,510	—	11,027 ⁴	11,312	842,409	17.2
Teachers' Training	169,671	—	—	—	169,671	3.4
Special Schools	35,032	—	—	3,290 ⁴	96,326	0.7
University	177,064	—	20,000 ⁴	72,180	227,244	4.6
Child Welfare	127,062	—	—	18,225 ⁴	141,887	2.8
Superannuation	177,178	—	42,759 ⁴	124,565 ⁴	354,772	7.1
Capital Expenditure	661,632	—	—	—	661,632	11.2
Miscellaneous	7,468	—	—	—	7,468	0.1
Native Schools	118,216	—	—	—	118,216	2.4
Total	4,611,327	61,841	103,786	244,885	5,027,839	100
Percentages	91.8	1.2	2.1	4.9	100	

¹ Includes Secondary and Technical. State subsidy is divided almost equally between the two branches. Endowments are only in Secondary Schools. Most of the fees are collected in Technical Schools.² Interest. ³ Teachers' contributions. ⁴ Maintenance fees.⁵ Total endowments £80,031 and £993 voluntary contributions, of which about £30,000 are collected by University Colleges.

SECTION EIGHT

STATISTICAL SURVEY OF EDUCATION IN EIRE

(See also YEAR BOOK, 1938, pages 101-2)

Primary Education

THE latest estimates, 1938-9, for the Dublin Ministry of Education and its work, provide for a population of just under three millions in total. Administrative costs are placed at £208,000, an increase of £8,000 on the year.

The costs of elementary or primary work, borne practically altogether by the Central Fund of the State, is £4,057,000, of which £3,145,000 comes from teachers' salaries, and £388,000 from their pensions. There are 5,240 elementary schools, with a present average attendance of 404,000 pupils, the obligatory period being eight years (6-14). An experimental plan for the Cork City region, which commenced operation in September 1938, raises the obligatory age there to 15 years, on a part-time basis for the added year. This can be extended into full use at any time, for the whole country, under the terms of the Education Act of 1926-7. The primary teaching staff is 13,400, the fully trained teachers are 3,950 men, 4,930 women. The attendance rate has varied by one-half per cent in the last five years, being now 83.5 for the whole area, rural and urban. The latest estimate of education costs per pupil per year is £8 17s 6d. Teachers' salaries were advanced by 5 per cent in 1938, the previous figures were

Normal Rates Men, £140 to £303, Women, £128 to £246

Supernormal Rates Men, to £377, Women, to £295

On the normal rates were 7,340, on the supernormal 2,590 teachers. Extra payments, £25 per year for men, £20 per year for women, are made since 1921 to 422 men and 281 women, in respect of the additional qualifications of a university degree, and a fourth university year (graduate) diploma in education.

Secondary Education

Secondary schools in Ireland are provided as to capital costs by non-State enterprise. The system includes practically all secondary schools under inspection, and in direct relation to the Ministry of Education, under its regulation and inspection. There are over 33,500 secondary pupils in 320 schools, of these, 30,500 are aided by the State on a capitation basis. All the teachers are in private employment, the State registration system requires, from 1925, a university degree, a further university diploma in education with an obligatory preceding course of one academic year after the degree, and a year's teaching experience in addition. There is an average of about 11 pupils to one teacher in the entire system. The secondary education costs are (1938-9) £470,600, an increase of £13,000. Capitation grants and teachers' salaries grants amount to £404,000, an increase of £8,600. The vote for technical educa-

tion is £264,000 from the Central Fund. Local (County and City) Vocational Education Councils' Committees levy a rate up to threepence in the pound, and so furnish a smaller, yet substantial share in the costs of a system now rapidly extending over the whole region. These Committees have a definite share in the work of administration, using a Central Inspectorate only.

Expenditure on Industrial, Agricultural and Medical Services

Industrial schools receive £107,000 for 1938-9, the total costs being £109,000. For agricultural development £637,000 is provided. State schools and farms account for £26,000, exclusive of university faculties, (two), £38,000 per year. The Veterinary College gets £10,000 per year, private schools £13,700 a year.

Elementary schools medical service is mainly borne by the Central Fund, at the current annual figure of £24,000, which is rapidly extending. For school meals the State gives £10,000 a year, Counties provide an equal figure.

Grants for Gaelic Qualifications

Gaelic qualifications of a public character are possessed by 12,000 teachers, about 2,400 teachers are as yet not so qualified. Special bursaries for Irish-speaking areas are provided at a cost to the Central Fund of £20,500 a year.

University Education

The University of Dublin (about 1,450 students), which has very large capital funds accumulated since its foundation (1592), receives in addition £3,000 a year under the Act of 1923.

The National University of Ireland, a Federal foundation of 1908, taking over previous grants and buildings of 1851 to 1926, has 3,550 students, at Dublin, Cork and Galway University Colleges. The grants for the year 1938-9, from the Central Fund of the State, are: Dublin, £86,000, with £25,000 added for a Faculty of General Agriculture in the North Co. Dublin, Cork, £40,000, with £13,000 added for a Faculty of Dairy Science at that centre, Galway, £30,000. £3,500 is provided, 1938-9, for further equipment. The capital costs of these modern buildings has been also borne by public funds, over the past ninety years. The number of students in the ten university faculties is proportionately about the English figure, in comparison with population. On the other hand, the financial aids for promising students are very much less than those provided in England or in Scotland. The Irish counties and cities sending students to university centres are at present providing £14,000 a year for 243 students. Scholarships from primary to secondary schools are given by Counties (1,090 scholars in 1936) of £20 to £40 per annum, there are, in addition, about 150 State scholarships, £30 to £40 a year each in value.

T. CORCORAN

STATISTICS EIRE

TABLE 49—PUPILS BY SEX AND TYPE OF INSTITUTION, 1936-7

(a) PRIMARY SCHOOLS

AGES	POPULATION CENSUS 1936	PRIMARY BOYS	PRIMARY GIRLS	PRIVATE SCHOOLS (PRIMARY)	TOTAL BOTH SEXES
4-6	119,457	28,243	28,435	223	56,901
6-7	59,937	24,582	24,184	273	49,039
7-8	56,040	26,032	25,414	266	51,712
8-9	53,418	25,565	25,069	239	50,873
9-10	54,904	25,875	25,205	202	51,282
10-11	57,306	25,740	25,505	176	51,420
11-12	58,483	25,458	25,126	167	50,751
12-13	60,297	25,307	24,638	152	50,087
13-14	58,645	20,604	20,991	115	41,800
14-15	60,802	8,901	11,252	121	20,274
15-16	58,983	2,175	4,363	59	6,597
16 or over	—	554	2,291	42	2,887
Totals	—	239,126	242,473	2,034	483,633

(b) SECONDARY SCHOOLS

	BOYS	GIRLS	TOTAL
Number of pupils between the ages of 12 and 20 in attendance at beginning of school year 1936-7, of whom roughly 80 per cent are under 16	20,628	15,262	35,890

(c) TECHNICAL AND VOCATIONAL SCHOOLS

TYPE OF COURSE OR CLASS	NUMBER OF STUDENTS ENROLLED DURING SESSION 1936-7				
	UNDER 16 YEARS	OVER 16 YEARS	TOTAL	MALE	FEMALE
Whole-time Day Courses at Permanent Centres	6,858	6,280	13,138	6,239	6,899
Part-time Day Classes at Permanent Centres	306	1,834	2,140	286	1,854
Evening Technical Classes at Permanent Centres	3,959	22,954	26,913	13,305	13,608
Seasonal Classes at Rural Schools	4,409	10,965	15,374	8,237	7,137
Short Courses at Rural Centres	1,696	5,617	7,313	2,561	4,752
Totals	17,228	47,650	64,878	30,628	34,250

(d) UNIVERSITIES

	MEN	WOMEN	TOTAL
Trinity College, Dublin	1,162	329	1,491
Dublin	1,586	566	2,152
Cork	609	279	888
Galway	125	207	332
Maynooth	582	—	582

(e) OTHER INSTITUTIONS

	MALE	FEMALE	TOTAL
Teachers in Training	230	374	604
Preparatory Colleges	263	331	594
Agricultural Schools	164	270	434
School of Art	238	103	341
Industrial Schools	2733	3,341	6,074

TABLE 50—FINANCE IN £'s, 1937

PURPOSES	STATE	LOCAL AUTHORI- TIES	OTHER	TOTAL	PER CENT- AGES
Administration	160,758	—	—	160,758	3.1
Primary	3,460,999	—	—	3,460,999	66.7
Secondary	451,677	25,398	43,627	520,702	10.3
Technical and Vocational	268,196	158,490	—	426,686	8.2
Reformatory and Industrial	109,535	77,357	—	186,892	3.6
Teachers' Training	98,972	—	—	98,972	1.9
Universities	158,581	13,180	117,848 ¹	289,609	5.4
Science and Art	44,593	—	—	44,593	0.8
Total	4,753,311	274,525	161,475	5,189,211	100
Percentages	91.9	5.2	3.9	100	

¹ This figure is for Trinity College only—Endowments, fees, etc. The latest figures available for other colleges are for the year 1934-5.

University College, Dublin Fees £34,199, Endowments £125, other services £1,486

University College, Cork Fees £15,204, Endowments £1,510, other services £9,065

University College, Galway Fees £5,181, Endowments £323, other services £302

SECTION NINE

TABLE 51.—BRITISH INDIA AND BURMA ENROLMENT, 1936
(See also Year Book, 1938, page 103)

PROVINCE	CENSUS 1931 POPULATION	PRIMARY GRADES					SECOND ARY GRADES	COLLEGES		UN- VER- SITIES	PERCENTAGES OF DISTRIBUTION			PERCENT- AGE OF TOTAL POP- ULATION			
		I	II	III	IV	V		TOTAL	VI VII		SPECIAL SCHOOLS	ARTS			CLASS	H V	POST PRIM ARY
												PRO FES SIONAL	ARTS				
Madras Male	23,082,999	873,222	413,496	330,168	276,866	119,194	2,002,448	209,686	30,305	10,399	824	38.6	50.1	11.3	9.6		
Madras Female	23,857,108	451,409	164,601	110,355	74,828	33,019	834,208	81,493	5,798	931	170	21.6	48.7	4.7	3.6		
Bombay Male	11,472,864	501,897	164,526	150,906	124,149	109,182	840,092	211,829	15,310	10,206	181	39.2	60.0	23.5	0.4		
Bombay Female	10,850,564	183,186	69,340	47,591	34,454	24,460	298,741	37,180	2,732	1,207	175	39.2	48.8	12.0	3.8		
Bengal Male	26,041,693	1,086,272	370,380	264,001	139,106	113,320	1,932,969	250,003	115,080	28,591	1,832	45.1	36.8	18.1	8.7		
Bengal Female	24,012,304	478,684	112,075	61,607	17,068	10,637	1,980,074	14,797	3,648	1,323	101	68.2	26.8	2.9	2.9		
United Prov. Male	25,445,006	479,262	206,178	172,043	125,940	92,814	1,180,933	107,634	24,993	5,774	4,431	65.6	36.0	15.8	5.2		
United Prov. Female	22,863,707	117,314	38,853	21,891	13,157	7,933	197,937	10,332	496	40	—	26.0	38.4	6.6	0.9		
Punjab Male	12,860,970	383,186	165,845	125,703	99,082	64,169	782,932	115,834	11,962	18,381	10	24.7	47.2	18.1	7.3		
Punjab Female	10,700,842	86,563	27,969	21,123	15,896	12,684	164,169	10,865	2,972	696	142	45.2	48.3	8.5	1.6		
Bihar & Orissa Male	18,794,138	281,965	181,651	176,601	131,739	69,021	821,077	147,087	20,990	5,691	930	28.3	34.4	17.3	5.2		
Bihar & Orissa Female	16,863,438	64,973	23,351	16,249	4,253	142,886	239,468	40,399	3,258	778	—	48.7	23.8	4.0	0.8		
Central Prov. Male	7,701,818	120,676	53,249	72,103	60,864	18,076	289,468	40,399	3,258	778	—	29.7	68.2	11.6	6.2		
Central Prov. Female	7,749,909	35,852	16,316	11,113	7,881	1,730	76,092	3,344	857	113	25	46.4	48.2	6.4	1.0		
Assam Male	4,687,206	108,874	53,896	41,199	36,466	32,796	272,331	45,913	4,503	1,840	96	32.7	51.9	16.4	7.0		
Assam Female	4,088,045	28,201	14,013	10,522	7,049	5,146	71,601	8,349	103	96	—	46.3	41.9	5.6	1.9		
N. West Prov. Male	1,316,813	58,708	10,941	8,994	7,210	4,733	65,609	10,839	133	812	—	43.6	41.3	15.2	6.0		
N. West Prov. Female	1,109,288	8,308	2,118	1,753	1,369	869	14,697	1,714	53	—	—	56.0	36.4	7.6	1.1		
Delhi Male	392,457	10,023	4,318	3,588	3,903	2,234	22,368	7,810	615	1,989	184	20.0	40.0	30.0	9.0		
Delhi Female	386,743	9,917	1,467	1,568	903	773	10,048	1,728	266	116	—	48.1	38.5	13.4	4.3		
Other areas, Male	380,473	1,032	4,364	1,718	713	616	39,116	16,138	1,289	684	—	19.7	60.8	30.0	6.6		
Other areas, Female	681,506	8,162	3,107	2,324	1,724	1,724	18,357	3,602	170	40	—	37.8	43.4	14.0	3.2		
Total, Brit India	132,532,042	5,605,973	1,719,830	1,398,435	1,010,775	431,119	8,286,192	1,289,600	431,130	78,290	11,311	36.3	47.3	16.4	7.3		
India	124,402,716	1,426,894	473,936	313,313	190,077	102,928	2,606,110	137,037	17,972	6,329	—	53.2	41.1	6.7	2.1		
Burma Male	7,460,691	149,247	45,897	35,272	27,557	12,056	270,029	32,021	17,180	145	—	46.6	37.8	15.6	4.2		
Burma Female	7,176,545	133,864	33,636	21,216	13,154	3,846	204,256	7,772	291	—	—	63.6	33.8	3.6	2.9		

TABLE 52—EXPENDITURE IN BRITISH INDIA AND BURMA, 1935-6

(In Rs) ¹*A By Institutions (including Burma)*

SOURCES	GOVERNMENT FUNDS	BOARD FUNDS	MUNICIPAL FUNDS	GRANTS	OTHER SOURCES	TOTAL	%
Administration and Inspection	1,05,99,541	5,82,717	4,15,330	—	11,874	1,16,08,145	4.2
Primary Schools	1,00,95,292	1,57,61,189	1,21,49,032	51,67,071	89,28,583	8,20,99,267	30.1
Middle Schools	1,09,16,684	90,86,101	16,88,087	72,81,943	34,38,128	2,82,64,226	10.6
High Schools	1,78,36,005	16,05,678	11,23,052	2,91,78,682	77,73,031	5,78,16,261	20.9
Training Colleges and Schools	10,12,681	39,100	53,492	66,661	1,40,992	46,13,099	1.7
Professional and Technical Schools	59,60,358	3,08,477	9,10,968	21,07,051	32,50,296	1,20,60,050	4.4
Arts and Professional Colleges	1,23,20,082	17,288	1,71,807	1,11,01,186	30,66,801	2,70,67,163	10.0
Universities	62,46,355	—	—	62,26,655	24,13,960	1,41,10,990	5.1
Buildings and all Other	1,11,11,882	32,61,815	12,55,771	69,15,368	1,26,81,007	8,55,89,599	31.1
Total	11,81,33,873	2,66,62,661	1,71,97,489	6,89,05,189	4,30,65,475	27,32,39,680	100
Percentages	18.3	9.8	6.3	36.2	15.1	100	—
Expenditure on Female Education ²	1,50,97,374	20,76,051	47,45,563	67,77,053	87,71,128	3,64,68,114	—
Percentages of Total	18.5	7.8	27.6	9.9	30.9	11.0	—

B By Provinces

Madras	2,56,10,285	78,76,848	97,64,965	1,10,00,359	5,61,51,957
Bombay	1,77,41,979	79,15,631	1,04,07,509	61,16,763	4,22,65,008
Bengal	1,80,36,507	35,32,049	1,07,06,119	71,00,179	4,44,46,654
United Provinces	2,07,00,008	61,01,885	70,60,078	57,80,118	4,89,49,194
Punjab	1,63,45,705	11,42,675	81,81,380	3,11,118	2,49,49,194
Bihar and Orissa	50,00,686	5,64,107	42,59,265	24,11,118	1,22,49,194
Central Provinces	47,30,189	30,91,286	70,62,394	31,11,118	1,49,49,194
Assam	50,37,553	7,54,068	30,10,076	1,11,118	1,49,49,194
N West Provinces	21,11,644	3,05,395	3,60,073	1,11,118	1,49,49,194
Delhi	11,19,708	3,71,714	7,86,199	1,11,118	1,49,49,194
Other Areas	16,76,417	3,23,005	6,71,715	1,11,118	1,49,49,194
Total British India	11,29,79,830	8,90,80,649	6,54,78,993	3,96,11,118	27,32,39,680
Burma	51,60,043	47,79,773	31,65,406	—	1,49,49,194

¹ Rupees are counted in lakhs (100,000) and crores (10,000,000), for example, Rs 27,32,39,680 = 27 crores, 32 lakhs and 39,680 Rupees.

² This is the expenditure on institutions for females, but about 10 per cent of the total expenditure is for males.

SECTION TEN

STATISTICAL SURVEY OF EDUCATION IN THE UNITED STATES

(See YEAR BOOK, 1932, pages 878-902, 1933, pages 486-99, 1934, pages 116-21, 368-82, 607-18, 1935, pages 134-9, 360-73, 1936, pages 340-67, 735-48, 1937, pages 247-63, 280-93, 1938, pages 249-77, 494-502, 740-914)

Introduction

MORE than a fourth of the 130,000,000 inhabitants of the United States attend schools of various kinds each year. One-fifth of the population, or 26,367,098, are enrolled in public elementary and secondary schools alone, while enrolments in private schools at the same levels increase this number to 29,005,873. The remaining enrolment is distributed among various types of educational institutions such as universities, colleges and normal schools, business and vocational schools, nurses' training schools, adult education classes, nursery schools and special schools for the handicapped and delinquent. Data for 1935-6 are available only for public and private elementary and secondary schools. The 1933-4 *Biennial Survey of Education* reports that 1,055,360 resident students were enrolled in institutions of higher learning, or 833 students to 100,000 of the population. Half of these students were enrolled in private and half in public institutions. These figures obviously do not include the 208,000 students enrolled in correspondence and extension courses. Of the 1,055,360 resident students, 816,699 were in senior colleges and universities, 102,477 in junior colleges and 136,184 in the regular sessions of teacher-training institutions. Private commercial and business schools reported an enrolment of 102,286 students in day and night schools, and nurses' training schools registered 100,419 (1931).

In 1935, the Civilian Conservation Corps enrolled 500,000 young men, of whom 175,000 registered for classes.

Schools and classes for the deaf, blind and mentally subnormal reported 34,206 children enrolled (1931), and schools for delinquents, 33,418. Vocational schools and classes enrolled 1,100,000 in 1934, rehabilitation classes, 37,000 during the same year, and Indian schools registered 56,400 for 1931.¹

Because of the informality of adult education programmes it is exceedingly difficult to give an accurate account of enrolment in adult education courses and classes. The tendency for persons past the usual school age to continue to study in a more or less

¹ These data are from the US Office of Education *Biennial Survey of Education*, 1932-4 and 1934-6

systematised fashion has been decidedly marked during the past ten or fifteen years. It is estimated that from 1924 to 1934 the number of adults enrolled or participating in some sort of educational activity increased from about 11 millions to 14 millions. While evidences seem to point towards a marked decline in private correspondence school enrolment and in the number of persons receiving training by corporations, increases which more than offset this loss have occurred in university extension courses, in vocational education courses, in miscellaneous public school courses for adults and in agricultural extension courses. Public schools are joining forces with the pioneering private organisations in an effort to meet the demands.¹

Enrolment in Public and Private Elementary and Secondary Schools²

Table 53 sets forth by states the enrolment in public and private elementary and secondary schools for 1936. Since 1930 public elementary school enrolment has decreased. From 1930 to 1936 the elementary school population declined 886,000. Even a steadily increasing high school enrolment could not altogether offset this number, and the total public elementary and secondary school enrolment reflected the decrease to the extent of 67,000 below the 1935 enrolment.

TABLE 53—ENROLMENT IN PUBLIC AND PRIVATE
ELEMENTARY AND SECONDARY SCHOOLS, BY
STATES, 1936

	ESTIMATED POPULATION 5-17 (JULY 1, 1936)	ENROLMENT IN PUBLIC ELEMENTARY SCHOOLS ¹	ENROLMENT IN PUBLIC SECONDARY SCHOOLS	ENROLMENT IN PRIVATE ELEMENTARY SCHOOLS	ENROLMENT IN PRIVATE SECONDARY SCHOOLS
	(1)	(2)	(3)	(4)	(5)
Continental United States	31,618,000	20,392,561	5,974,537	2,251,466	387,309
Alabama	835,000	595,794	81,268	8,956	4,710
Arizona	125,000	80,937	18,859	3,730	745
Arkansas	560,000	399,607	61,262	5,878	854
California	1,152,000	830,136	310,291	54,768	14,334
Colorado	265,000	184,733	55,014	10,948	2,118
Connecticut	390,000	235,117	85,771	51,629	11,801
Delaware	57,300	34,630	11,470	6,204	1,523
District of Columbia	96,000	77,154	22,653	11,619	3,320

¹ Information on adult education from National Education Association and American Association of School Administrators, Educational Policies Commission, *The Effect of Population Changes on American Education* (Washington, D. C. the Commission, 1938), page 42.

² The data given are from the U. S. Office of Education *Biennial Survey of Education*, 1932-4 and 1934-6.

TABLE 53—continued

	ESTIMATED POPULATION 5-17 (JULY 1, 1916)	ENROLMENT IN PUBLIC ELEMENTARY SCHOOLS ¹	ENROLMENT IN PUBLIC SECONDARY SCHOOLS ²	ENROLMENT IN PRIVATE ELEMENTARY SCHOOLS	ENROLMENT IN PRIVATE SECONDARY SCHOOLS
	(1)	(2)	(3)	(4)	(5)
Florida	393,500	318,850	66,913	5,653	1,284
Georgia	875,000	612,533	106,004	6,197	2,903
Idaho	128,000	88,418	32,627	2,736	505
Illinois	1,756,000	975,687	351,582	224,623	28,972
Indiana	798,000	510,607	180,837	55,434	5,539
Iowa	618,000	402,552	135,451	38,531	11,584
Kansas	473,000	307,604	106,671	24,815	4,056
Kentucky	764,000	543,841	84,260	34,264	7,442
Louisiana	625,000	387,099	78,495	51,494	9,166
Maine	199,800	129,147	37,960	22,546	7,180
Maryland	412,000	239,494	58,663	45,656	8,447
Massachusetts	900,000	544,979	226,260	146,513	26,308
Michigan	1,225,000	717,375	246,152	122,881	16,979
Minnesota	650,000	407,439	141,690	56,060	7,370
Mississippi	628,000	543,320	64,716	5,588	2,086
Missouri	860,000	563,957	147,299	66,620	10,025
Montana	139,000	80,781	32,981	6,744	1,329
Nebraska	354,000	228,800	79,175	22,560	3,670
Nevada	19,000	14,748	4,972	258	—
New Hampshire	110,000	58,051	20,390	22,642	8,871
New Jersey	965,000	603,286	205,792	109,062	15,205
New Mexico	131,000	84,318	14,889	6,076	1,248
New York	2,750,000	1,636,720	651,322	341,511	51,748
North Carolina	1,069,000	722,911	165,804	4,691	2,261
North Dakota	203,000	121,607	33,428	7,884	2,190
Ohio	1,619,000	950,731	338,606	150,570	27,562
Oklahoma	710,000	530,806	127,243	6,905	1,660
Oregon	207,000	131,433	56,928	10,791	2,000
Pennsylvania	2,500,000	1,520,420	485,677	261,710	39,064
Rhode Island	104,000	93,515	28,040	27,994	4,390
South Carolina	594,000	408,498	69,417	3,093	2,219
South Dakota	193,000	116,114	38,049	9,588	944
Tennessee	764,000	558,316	94,895	6,857	4,778
Texas	1,672,000	1,071,230	393,397	43,367	4,960
Utah	160,000	98,439	42,424	915	451
Vermont	88,000	55,326	12,734	8,998	2,504
Virginia	724,000	487,007	105,031	7,630	4,500
Washington	352,000	234,323	101,427	14,203	4,296
West Virginia	548,000	327,825	76,907	6,985	1,588
Wisconsin	740,000	408,707	168,636	104,432	10,623
Wyoming	60,000	41,639	14,745	1,827	110

¹ Includes kindergartens² Includes all types of high schools*Analysis of Tables 53 and 54*

Table 53 shows that less than one-tenth of the total number of the children enrolled in elementary schools are in private schools, and the enrolment of private high schools is only 6 per cent of the total high school enrolment

TABLE 54—ENROLMENT BY GRADE, 1936

GRADE OR YEAR	NUMBER OF PUPILS ENROLLED (PUBLIC SCHOOLS ONLY)
<i>Elementary School</i>	
Kindergarten	606,753
First Grade	3,530,325
Second Grade	2,567,589
Third Grade	2,524,736
Fourth Grade	2,498,741
Fifth Grade	2,432,991
Sixth Grade	2,319,470
Seventh Grade	2,181,987
Eighth Grade	1,739,969
Total	20,392,561
<i>Secondary School</i>	
First Year	1,970,072
Second Year	1,619,882
Third Year	1,249,409
Fourth Year	1,064,469
<i>Post Graduate</i>	70,725
Total	5,974,537
Grand Total	26,367,098

Table 54 gives the distribution of public elementary and secondary school pupils by grades. This classification is according to the traditional 8-4 plan, but for some years the tendency has been to reorganise elementary and secondary schools so as to provide for a *junior* high school between the elementary and secondary schools. The junior high school plan varies from place to place. It may include the seventh and eighth grades and the first year of high school (the 6-3-3 plan) or it may utilise other combinations that seem better adapted to the local situation.

According to the latest report from the U. S. Office of Education 870,963 teachers were employed in 1936 in the elementary and secondary schools of the United States at an average annual salary of \$1,073. A recent survey¹ of the salaries of city school teachers shows that the median for city teachers was somewhat higher. The table below shows the median salaries for various types of teachers and other school officials in 1,895 city school systems. This represents three-fifths of all city school systems in this country. The actual average salary, if all school systems reported, would be lower than these figures because the percentage of replies from the larger cities which in general pay the higher salaries is greater than the percentage of replies from smaller cities.

¹ Every two years the National Education Association conducts a nationwide survey of the salaries of city school teachers. These figures are from the 1936-7 survey.

TYPE OF TEACHER	MEDIAN SALARY
Kindergarten and Elementary	\$1,873
Junior High School	1,852
Senior High School	2,058
Supervising Elementary School Principals	2,893
Junior High School Principals	2,945
High School Principals	3,074
Superintendents of Schools	3,821

Organisation and Administration

The public elementary and high schools of the United States are administered locally, although under the jurisdiction of the various states. Table 55 shows that there are 126,507 of these basic

TABLE 55—SCHOOL ADMINISTRATIVE UNITS, 1936¹ 2

DISTRICT UNIT	NUMBER PER STATE	TOWN OR TOWNSHIP UNIT	NUMBER PER STATE
Arizona	500	Connecticut	161
Arkansas	3,193	Indiana	1,292
California	3,539	Maine	318
Colorado	2,041	Massachusetts	375
Idaho	1,418	New Hampshire	244
Illinois	12,070	New Jersey	552
Iowa	4,870	Pennsylvania	2,587
Kansas	8,747	Rhode Island	39
Michigan	6,965	Vermont	94
Minnesota	7,773		
Mississippi	3,560	Total	5,842
Missouri	8,764		
Montana	2,439		
Nebraska	7,244		
Nevada	266		
New York	9,487	COUNTY UNIT	NUMBER PER STATE
North Dakota	2,228	Alabama	112
Ohio	2,033	Florida	67
Oklahoma	4,934	Georgia	272
Oregon	2,234	Kentucky	384
South Carolina	1,792	Louisiana	66
South Dakota	3,493	Maryland	24
Texas	7,932	New Mexico	98
Washington	1,792	North Carolina	168
Wisconsin	7,662	Tennessee	194
Wyoming	400	Utah	40
Total	119,345	Virginia	125
		West Virginia	55
STATE SYSTEM		Total	1,505
Delaware	15		
(The State, 1 City, and 13 Special Districts)		Total in the United States	126,607

¹ The numbers may not be exact in every case. An attempt has been made to bring up to date the table prepared by Walter S. Deffenbaugh and Timon Covert in *School Administrative Units with Special Reference to the County Unit* (Washington: U. S. Government Printing Office, 1933), pages 4-5.

² Source: Frederic, Katherine A., *School Finance and School Districts* (Washington, D. C.: National League of Women Voters, March 1936), page 35.

TABLE 56 — SOURCES OF PUBLIC SCHOOL REVENUE,
1933-4^{1 2}

STATE	TOTAL AMOUNT	PERCENTAGE OF TOTAL REVENUES FROM			
		FEDERAL AID	STATE SOURCES	COUNTY SOURCES	LOCAL SOURCES
		1 2	23 4	9 3	66 1
United States	\$1,810,653,003				
Alabama	16,526,732	13 6	34 0	30 3	23 0
Arizona	7,412,428	1 9	29 5	35 0	33 6
Arkansas	11,139,287	7 3	20 0	5 6	66 8
California	140,126,715	0 2	48 7	4 3	46 8
Colorado	19,258,088	0 7	3 3	24 5	71 5
Connecticut	24,753,686	0 3	9 2	—	90 5
Delaware	4,398,508	0 6	92 5	—	6 9
Florida	18,106,767	4 2	29 1	48 5	18 1
Georgia	17,208,850	10 2	29 4	26 7	33 6
Idaho	8,625,703	0 6	8 6	29 2	61 6
Illinois	112,836,724	0 5	6 8	0 1	92 6
Indiana	50,122,629	0 4	27 0	—	72 6
Iowa	43,153,901	0 3	1 9	2 5	95 3
Kansas	24,100,795	0 5	2 0	11 8	85 7
Kentucky	17,373,560	3 0	24 2	29 7	43 1
Louisiana	20,586,319	5 2	33 7	44 1	16 9
Maine	8,349,967	0 6	32 6	—	60 8
Maryland	21,220,140	0 4	24 3	28 2	47 1
Massachusetts	70,536,769	0 2	11 8	—	88 0
Michigan	73,481,083	0 5	23 5	—	76 0
Minnesota	40,335,104	0 5	26 4	5 3	67 8
Mississippi	10,659,972	13 6	37 9	25 1	23 1
Missouri	57,284,795	1 3	7 9	2 1	88 7
Montana	10,573,888	1 3	9 5	47 9	41 3
Nebraska	18,804,896	1 0	5 5	0 5	93 0
Nevada	2,235,169	1 5	15 3	56 6	26 6
New Hampshire	6,384,580	0 3	9 1	—	90 6
New Jersey	85,715,821	0 2	2 6	19 0	78 2
New Mexico	6,085,279	5 0	16 9	5 9	15 2
New York	282,991,029	0 2	28 3	—	71 5
North Carolina	25,641,654	2 7	61 5	21 6	13 1
North Dakota	9,885,353	4 3	10 5	17 9	69 3
Ohio	104,559,020	0 4	15 3	20 1	64 1
Oklahoma	28,334,085	4 6	29 4	2 3	63 5
Oregon	16,671,770	1 0	1 8	21 1	71 1
Pennsylvania	149,371,890	0 3	20 3	—	79 1
Rhode Island	12,333,555	0 3	6 0	—	91 7
South Carolina	11,924,120	3 9	27 7	7 3	62 3
South Dakota	11,497,998	2 2	9 1	—	88 7
Tennessee	24,828,425	4 2	42 5	3 8	13 5
Texas	53,049,925	1 9	51 5	9 1	17 0
Utah	9,153,891	1 5	39 2	31 1	21 9
Vermont	3,503,318	0 3	15 7	—	81 0
Virginia	20,459,650	4 3	26 7	31 1	31 2
Washington	24,795,530	0 4	97 0	1 3	97 3
West Virginia	20,648,093	3 0	49 1	47 9	—
Wisconsin	40,125,320	0 4	19 8	10 7	69 1
Wyoming	4,226,785	1 8	24 5	21 6	2 1

¹ Data from the U. S. Office of Education, March 1936

² Source: Frederic, Katherine A., *School Finance and State Districts* (Washington, D. C.: National League of Women Voters, March 1936), page 36

local administrative units. Each conducts its own particular school system according to its own plan, but under the laws of the state in which it may be located. These units, termed districts, towns or townships, are generally subdivisions of counties. As transportation facilities are being improved, the tendency is to enlarge the administrative area. Table 55 shows that in twelve states the county is now the administrative unit.

Delaware is the exception to the general rule in plan of school administration. The state covers so small a territory that most of the control and administration of the schools may readily be carried on directly from the capital. Even in this case, however, the state operates through a city school system and thirteen special districts in performing certain administrative functions.¹

Financing the Public Schools

The public elementary and secondary schools are for the most part locally supported as well as locally administered. Table 56 shows that, on the average, 75.4 per cent of public school revenue for the school year 1933-4 was derived from county and local sources, leaving only 25.6 per cent of the total amount of revenue to be supplied by the state and Federal governments. Since the state provided 23.4 per cent of the total amount of revenue, the Federal Government's aid was the negligible proportion, 1.2 per cent.²

Practically all public school funds are raised by taxation and legislative appropriation. Table 57 shows that of the \$1,971,402,416 income of the public schools in 1936, \$1,885,755,840, or 95.7 per cent, was provided by the state, county and local taxation and appropriation.³

TABLE 57—SOURCE OF INCOME OF PUBLIC SCHOOLS, 1936

Permanent Funds and Lease of School Lands	\$24,370,473
County and Local Taxes and Appropriations	1,330,401,986
State Taxes and Appropriations	553,353,854
Federal Aid	9,849,574
Miscellaneous Sources	51,426,529
Total	\$1,971,402,416

¹ Frederic, Katherine A., *School Finance and School Districts* (Washington, D.C. National League of Women Voters, March 1936), page 35.

² Frederic, Katherine A., *op cit*, page 36.

³ *Biennial Survey of Education*, *op cit*.

TABLE 58—DISTRIBUTION OF STATE SCHOOL EXPENDITURES, 1936

(Public Elementary and Secondary Schools only)

PURPOSE	AMOUNT	PERCENTAGE OF TOTAL
General Control	\$67,436,271	4.1
Instruction	1,214,363,109	73.3
Operation	168,788,708	10.2
Maintenance	64,475,349	3.9
Auxiliary Agencies	98,114,995	5.9
Fixed Charges	43,620,506	2.6
Total Current Expense	1,656,798,938	100.0
Capital Outlay	171,321,674	
Interest	112,084,153	

Table 58 indicates the purposes to which public school expenses were devoted. Instruction which includes teachers' salaries, textbooks and school supplies received 73.3 per cent, by far the largest share of the \$1,656,798,938 which was paid out to current expenses.¹

WHITNEY G. CARR

¹ *Biennial Survey of Education, 1936*, pp. 117-118.

SECTION ELEVEN

TABLE 59.—ENROLMENT IN EUROPEAN COUNTRIES ALL INSTITUTIONS, INCLUDING PRIVATE SCHOOLS, 1936-7 (See also Year Book, 1936, pages 13-133)

COUNTRY	POPULATION IN 1936	KINDERGARTENS AND INFANTS SCHOOLS	PRIMARY SCHOOLS	INTERMEDIATE SCHOOLS	SECONDARY SCHOOLS	VOCATIONAL SCHOOLS AND TECHNICAL SCHOOLS	NORMAL SCHOOLS AND TRAINING COLLEGES	UNIVERSITIES AND HIGHER TECHNICAL INSTITUTIONS	POST-PRIMARY	SCHOOLS PER 10,000 POPULATION IN 1936
		BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	
Albania	1,003	548	240	—	—	—	—	—	—	—
Belgium	8,831	129,324	130,176	33,680	16,232	21,044	4,442	284	5,608	8,440
Bulgaria	6,078	5,329	5,219	156,117	108,110	86,732	21,116	35,878	15,905	409
Czechoslovakia	13,187	61,740	57,693	885,626	248,959	814,804	461,644	880	315,440	4,587
Denmark	3,706	8,000	8,000	447,140	24,988	7,037	6,068	61,982	12,251	1,293
Estonia	1,137	6,000	—	106,025	—	7,011	8,480	4,725	3,888	61
Finland	3,807	7,417	1,402	208	—	23,713	30,614	47,356	—	846
France	41,907	205,861	197,389	2,628,460	2,705,643	54,326	53,267	161,474	82,043	99,878
Germany -	68,031	425,000	—	118,295	116,882	433,003	229,470	829,474	400,286	4,480
Austria	6,760	22,049	23,083	337,741	334,872	76,208	43,687	30,405	4,483	1,070
Greece	6,987	30,720	490,462	418,037	6,245	926	46,861	24,212	5,466	415
Hungary	8,991	61,740	57,693	488,651	475,578	51,081	17,488	214,777	176,522	3,078
Italy	42,994	86,275	868,099	2,601,971	2,375,907	—	156,871	76,090	834,131	41,963
Latvia	1,031	1,194	2,097	118,695	108,475	—	8,708	9,173	4,496	478
Lithuania	2,527	2,337	2,697	155,783	119,140	1,897	1,941	8,708	6,881	1,262
Luxembourg	2,297	2,177	2,093	18,793	18,715	9,113	1,149	4,753	3,322	40
Netherlands	8,895	108,558	103,839	591,928	560,830	61,033	43,631	61,883	53,443	4,781
Norway	2,857	96,382	—	368,871	11,276	8,735	4,565	3,083	56,871	586
Poland	34,221	—	—	477,827	—	—	90,840	174,460	63,090	2,270
Portugal	7,260	70,725	66,639	2,009	215,186	—	31,642	12,776	665	96
Rumania	18,423	1,850,709	1,126,804	9,647	12,448	—	63,403	37,887	35,764	7,993
Spain	25,903	500,000 incl. in primary	1,138,835	1,057,002	—	—	59,032	22,966	68,732	10,714
Sweden	6,267	—	—	831,354	5,423	8,093	39,715	39,186	236,371	684
Switzerland	15,068	100,000	510,477	575,511	40,904	51,992	10,492	2,584	156,446	1,434
U.S.S.R.	176,000	1,036,000	446,000	251,806	26,000,000	5,917,470	3,254,917	2,181	2,438	6,780
Yugoslavia	10,174	16,231	17,149	770,543	571,189	—	65,998	34,575	73,070	1,613
Dantzig	407	—	—	26,843	2,885	2,181	1,744	1,744	1,316	—

* Approximate * Data for 1935-6 * Data for 1933 * Included in Vocational

SECTION TWELVE

SURVEY OF EDUCATIONAL STATISTICS IN BRITISH MALAYA

A Statistical and Descriptive Review based upon the 1937 Malayan Year Book, the 1936 Annual Education Report for the Straits Settlements and Federated Malay States, the 1936 Annual Report on the Social and Economic Progress of the People of the Straits Settlements and the 1931 Census Report for British Malaya

THE following survey refers only to the Straits Settlements and Federated Malay States. The Education Department is concerned only with the education in these two regions, of the Unfederated Malay States, Johore and Kedah have their own Superintendent of Education. As illustrated in Diagram I, apart from vocational and higher education described below, there are two parallel and distinct systems of education, namely, vernacular and English. They are, however, partly related by means of special two-year classes which enable Malay pupils to join the English schools if they have satisfactorily passed Standard IV in the vernacular school in time to join the English school before the age of 11. Such facilities do not exist for children of the other races. It should be noted that the education of Malay children is encouraged by all possible means and, in the Federated Malay States, at least, Malay elementary vernacular education is regarded as a first charge on the funds available for education.

The vernacular system is further subdivided into Malay, Chinese and Indian systems, according to the language used as the medium of instruction. In the English system the medium of instruction is English throughout.

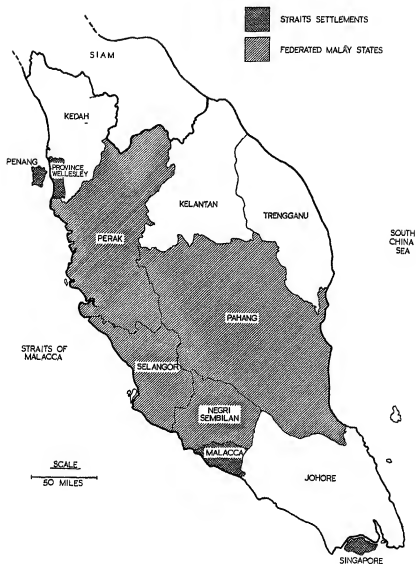
In both systems, English and vernacular, there are three types of schools:

(a) Government schools—i.e. schools for which the Government assumes entire responsibility.

(b) Aided schools—i.e. schools which receive a grant from the Government funds.

(c) Unaided or private schools—i.e. schools which do not receive any financial assistance from Government funds. It must be remembered that the unaided schools considered in this survey do not necessarily include all schools which are not either Government or aided, there may be private schools without the cognisance of the Department. The Malay vernacular schools are all type (a)—school buildings, quarters for staff, equipment and books are all provided by Government. For the schools of the other systems, the statistics for Government and aided schools have been grouped together and shown separately from those for the unaided or private schools.

BRITISH MALAYA



Before considering the educational statistics in detail, it is necessary to note carefully the racial composition of the population of the territory. The estimated population by race, December 31st, 1936 (according to the *Malayan Year Book*, 1937), is given in Table 1. It will be seen that the Chinese constitute approximately 61 per cent and 42 per cent of the total population in the S.S. and F.M.S. respectively. The next largest group is the Malays (25 per cent and 35 per cent approximately) the Indians being the third largest group (11 per cent and 22 per cent approximately). But these figures alone do not give a complete picture, as the numbers of the Chinese and Indians are affected to a large extent by immigration and emigration. The age distributions for the Malays, Chinese and Indian populations, according to the 1931 census, are shown in Diagram 1 on page 100. The effect of the immigration of adult males (and to a certain extent adult females) appears very clearly, for example, although there are more Chinese than Malays in the F.M.S., yet there are more Malay children than Chinese children.

TABLE 1—STRAITS SETTLEMENTS AND FEDERATED MALAY STATES ESTIMATED POPULATION BY RACE, DECEMBER 31st, 1936 (ACCORDING TO MALAYAN YEAR BOOK, 1937)

RACES	STRAITS SETTLEMENTS		FEDERATED MALAY STATES	
	POPULATION	PERCENTAGE	POPULATION	PERCENTAGE
Europeans	13,843	1.2	8,713	0.5
Eurasians	12,250	1.0	4,746	0.2
Malays	295,656	24.6	662,484	35.1
Chinese	732,843	61.2	784,698	41.6
Indians	132,357	11.0	409,961	21.7
Others	11,608	1.0	16,548	0.9
Total	1,198,557	100.0	1,887,150	100.0

The emigration and immigration figures for 1936 (for British Malaya as a whole) are shown in Table 2. It would appear from these figures, and Diagram 2 on page 101, that probably three-quarters of the Chinese and Indians could be considered as "settled" populations, but in the absence of statistics relating to the period of residence it is impossible to state exactly what proportion of the population is permanently resident in Malaya.

DIAGRAM 1—EDUCATIONAL SYSTEM OF BRITISH MALAYA

Enrolment in the different types of schools and length of course (Straits Settlements and Federated Malay States only)

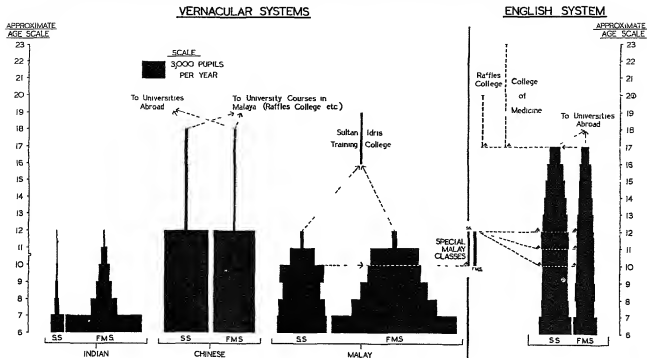
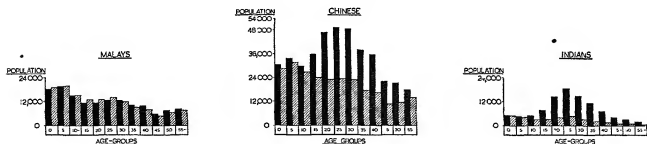


DIAGRAM 2—AGE DISTRIBUTIONS OF MALAY, CHINESE AND INDIAN POPULATIONS IN BRITISH MALAYA, 1931

A STRAITS SETTLEMENTS



B FEDERATED MALAY STATES

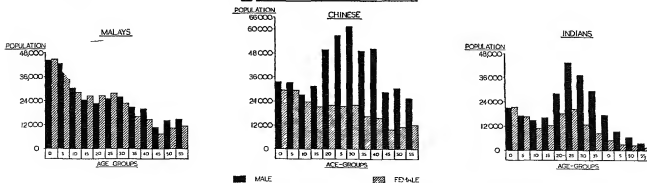


TABLE 2—IMMIGRATION AND EMIGRATION
(BRITISH MALAYA), 1936

	ADULTS		CHILDREN (UNDER 12 YEARS)	
	MALES	FEMALES	BOYS	GIRLS
ARRIVALS				
Europeans	18,788	9,732	1,578	1,966
Eurasians	464	434	31	33
Japanese	2,098	493	157	135
Chinese	174,185	69,424	22,872	15,818
Malays	65,398	29,341	9,465	6,589
North Indians	14,442	1,894	1,104	759
South Indians	41,913	6,194	4,680	2,695
Others	12,784	6,875	2,752	1,954
DEPARTURES				
Europeans	16,545	9,317	1,501	1,328
Eurasians	424	416	29	23
Japanese	1,678	436	132	158
Chinese	143,448	36,214	16,376	10,460
Malays	69,274	29,708	9,467	6,604
North Indians	13,208	1,442	936	552
South Indians	35,992	7,333	2,595	1,659
Others	14,473	7,072	2,428	1,480
EXCESS (+) OR DEFICIT (—) ARRIVALS				
Europeans	2,243	415	77	38
Eurasians	40	18	2	10
Japanese	420	57	— 25	— 23
Chinese	30,737	33,210	6,496	5,358
Malays	— 3,876	— 427	— 2	— 21
North Indians	1,234	452	168	207
South Indians	5,921	— 1,139	2,085	1,042
Others	— 1,689	— 217	124	— 126

Annual Report on the Social and Economic Progress of the People of the Straits Settlements, 1936, Table III, pages 96-100

I Vernacular Education

The original data are given in Tables 3 to 8, and these figures have been presented graphically in Diagrams 3 and 4 on page 103. In examining and comparing the figures showing the enrolment expressed as a percentage of the estimated population in the corresponding age-groups, it must be remembered that the ages of the pupils enrolled in the different classes were not given and, therefore, the presence of over-age and retarded pupils in the classes could not be directly detected. It is obvious from these results, however, that a large proportion of the pupils in the lower classes are over-age or retarded. This fact is clearly recognised by the Education Department, and they appear to be doing all in their power to correct these defects. It is the presence of these types of pupils which causes the per-

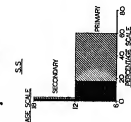
DIAGRAMS 3 AND 4—VERNACULAR EDUCATION IN BRITISH MALAYA, 1936

Enrolment in the different classes expressed as a percentage of the estimated population in the corresponding age-groups (Straits Settlements and Federated Malay States only)

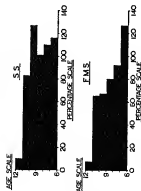
■ GOVT & AIDED ■ UNAIDED

BOYS

A CHINESE



B MALAY



C INDIAN

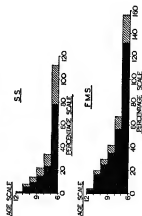


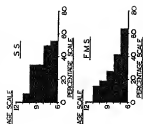
Diagram 3

GIRLS

A CHINESE



B MALAY



C INDIAN

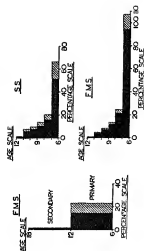


Diagram 4

centage figures in certain classes to be greater than 100, but it is to be hoped that accurate age statistics will be available in the near future, so that the actual percentage figures can be obtained.

It is convenient to consider the figures separately for each race. Indeed, under present conditions and in view of differences in the official policy in regard to the education of the different races, it would be difficult, if not impossible, to make accurate comparisons of the facilities available for the education of members of the different races.

(a) *Malay Vernacular Schools*

The accepted length of the school course is four years, but in some cases the course is extended for a further one or two years. The instruction is in Malay throughout the course. The general policy is to give a sound training in "the three R's," but at the same time to try to foster an interest in agriculture and the other business of the villages. The aim in boy's education is to give a general and practical education to those who will remain on the land or find local employment for which a knowledge of English is not essential. The training given in the girls' schools is similar with regard to the general education and, in addition, training is given in homecraft, needlework, etc. Girls are encouraged to attend boys' schools, and some boys attend girls' schools, but the regulations impose a maximum age limit of 12 years for one of the sexes in mixed schools.

Education is free in the Malay boys' and girls' schools—i.e. these are all Government schools. Attendance is compulsory for boys between the ages of 7 and 14 who live within a radius of $1\frac{1}{2}$ miles of the school in the S.S. or 2 miles in the F.M.S., and who have not passed the Standard IV examination. Attendance is not compulsory for girls.

The data regarding Malay vernacular education are given in Tables 3 and 4, these have been presented graphically in Diagrams 3B and 4B. It will be seen that girls' education is not as fully developed as boys'. There is considerable wastage in the girls' schools, both in the S.S. and F.M.S., and also in the boys' schools in the F.M.S.

These results are interesting, in that they suggest the facilities are adequate for boys, but require considerable expansion in the case of girls' education. The results also indicate that there must be a large number of over-age and/or retarded pupils in the lower standards, at least in the boys' schools. Also, in the Straits Settlements, there are an unusually large number of boys enrolled in Standard IV. It is not clear how this situation has arisen, but it seems to be partly due to the fact that many of the boys remain in the schools after passing Standard IV and are still classed as enrolled in this standard, and also to an unusual number of retarded pupils. This situation arises only in Penang, but a similar one occurs in Standard V in Malacca.

TABLE 3—STRAITS SETTLEMENTS, 1936
MALAY VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹		ENROLMENT		PERCENTAGE ²	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
6-7	3,825	3,825	4,433	2,047	116	53.5
7-8	3,745	3,745	4,128	1,861	110	49.7
8-9	3,670	3,670	3,703	1,211	101	33.0
9-10	3,590	3,590	4,558	1,183	127	33.0
10-11	3,515	3,515	2,919	278	83.1	7.9
11-12	3,440	3,440	328	13	9.5	0.4
Total	21,785	21,785	20,060	6,593 ³	92.1	30.3

¹ Estimated for 1936² Enrolment expressed as a percentage of the estimated population in the corresponding age-group³ In addition, there are 34 girls enrolled in Domestic Science classesTABLE 4—FEDERATED MALAY STATES, 1936
MALAY VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹		ENROLMENT ²		PERCENTAGE ²	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
6-7	8,575	8,575	10,900	5,523	127	64.4
7-8	8,400	8,400	7,740	3,495	92.1	41.6
8-9	8,240	8,240	6,620	2,231	80.3	27.1
9-10	8,060	8,060	5,410	1,521	67.1	18.9
10-11	7,885	7,885	5,160	1,135	65.4	14.4
11-12	7,715	7,715	559	16	7.2	0.2
Total	48,875	48,875	36,389	13,921	74.5	28.5

¹ Estimated for 1936² Enrolment expressed as a percentage of the estimated population in the corresponding age-group³ Approximations only (on basis of percentage figures given in Education Report)*(b) Chinese Vernacular Schools*

The primary course in Chinese schools normally lasts for six years, the first four years are called Lower Primary and the remaining two years Upper Primary. The secondary course lasts for six years, three of junior classes and three of senior classes

Complete figures were not given for enrolment in the different classes, but only for the broad groups of primary and secondary. From the figures which are available it would appear that there are very few pupils enrolled in the higher classes of the secondary schools. It is to be hoped that more detailed statistics will be available in later reports.

There were no Government Primary Chinese schools in the S.S., and only two in the F.M.S. The Government assists the Chinese vernacular education by a system of grants-in-aid, but there are numerous private schools which do not receive financial assistance from the Government. The Education Department has little, if any, control over many of these unaided schools. In the private schools the native dialects of the pupils are used as the medium of instruction, but in the others Kuo Yue or Colloquial Mandarin is used. English is taught in almost every school, but unfortunately in many cases the teachers have not the proper qualifications to teach English. Very many of the teachers have been educated in China.

The data regarding Chinese vernacular education are given in Tables 5 and 6 and are shown graphically in Diagrams 3A and 4A. It will be seen that girls' education lags far behind that of the boys, and there appears to be room for expansion even for the latter. It should be noted that there are roughly twice as many enrolled in the unaided as in the aided primary schools of the S.S., but the position is almost exactly reversed in the F.M.S. In the absence of the necessary statistics, however, it is impossible to discuss the problems of retardation, wastage and over-age pupils in these schools.

TABLE 5—STRAITS SETTLEMENTS, 1936
CHINESE VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹	ENROLMENT			PERCENTAGE ²		
		GOVERNMENT AND AIDED	UNAIDED	TOTAL	GOVERNMENT AND AIDED	UNAIDED	TOTAL
Boys							
6-12	43,110	7,728	18,033	25,761	17.9	41.9	59.8
12-18	41,900	697	525	1,222	1.7	1.3	3.0
Girls							
6-12	40,550	3,725	5,297	9,022	9.2	13.1	22.3
12-18	29,930	629	23	652	2.1	0.1	2.2

¹ Estimated for 1936 (unmarried)

² Enrolment expressed as a percentage of the estimated population in the corresponding age-group

TABLE 6—FEDERATED MALAY STATES, 1936
CHINESE VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹	ENROLMENT			PERCENTAGE ²		
		GOVERNMENT AND AIDED	UNAIDED	TOTAL	GOVERNMENT AND AIDED	UNAIDED	TOTAL
Boys							
6-12	41,470	15,023	9,203	24,226	36.2	22.2	58.4
12-18	36,130	613	259	772	1.4	0.7	2.1
GIRLS							
6-12	36,570	5,449	3,104	8,553	14.9	8.5	23.4
12-18	24,030	213	62	275	0.9	0.3	1.2

¹ Estimates for 1936 (excluding those married)

² Enrolment expressed as a percentage of the estimated population in the corresponding age-group

TABLE 7—STRAITS SETTLEMENTS, 1936
TAMIL VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹	ENROLMENT			PERCENTAGE		
		AIDED	UNAIDED ²	TOTAL	AIDED	UNAIDED	TOTAL
Boys							
6-7	948	735	320	1,055	77.5	33.8	111.3
7-8	927	219	95	314	23.6	10.3	33.9
8-9	908	141	61	202	15.5	6.7	22.2
9-10	887	87	38	125	9.8	4.3	14.1
10-11	1,020	57	25	82	5.6	2.4	8.0
11-12	1,000	6	3	9	0.6	0.3	0.9
Total	5,690	1,245	542	1,787	21.9	9.5	31.4
Girls							
6-7	906	466	139	605	51.4	15.4	66.8
7-8	887	139	42	181	15.7	4.7	20.4
8-9	870	90	27	117	10.4	3.1	13.5
9-10	849	56	16	72	6.6	1.9	8.5
10-11	637	37	11	48	5.8	1.7	7.5
11-12	623	5	1	6	0.8	0.2	1.0
Total	4,770	793	236	1,029	16.6	5.0	21.6

¹ Estimated for 1936

² Enrolment expressed as a percentage of the estimated population in the corresponding age-group

³ Estimates only (on basis of enrolment in the different classes in Government and aided schools)

TABLE 8—FEDERATED MALAY STATES, 1936
TAMIL VERNACULAR SCHOOLS

AGE GROUP	ESTIMATED POPULATION ¹	ENROLMENT			PERCENTAGE ²		
		GOVERNMENT AND AIDED	UNAIDED ³	TOTAL	GOVERNMENT AND AIDED	UNAIDED	TOTAL
Boys							
6-7	3,840	5,073	937	6,010	132.0	24.4	156.4
7-8	3,760	2,133	394	2,527	66.7	10.5	67.2
8-9	3,690	1,312	242	1,554	35.6	6.5	42.1
9-10	3,590	911	168	1,079	25.4	4.6	30.0
10-11	3,340	564	104	668	16.9	3.1	20.0
11-12	3,260	110	20	130	3.4	0.6	4.0
Total	21,480	10,103	1,865	11,968	47.0	8.7	55.7
Girls							
6-7	3,686	3,467	483	3,950	94.1	13.1	107.2
7-8	3,600	769	107	876	21.4	3.0	24.4
8-9	3,520	407	57	464	11.6	1.6	13.2
9-10	3,440	248	34	282	7.2	1.0	8.2
10-11	2,490	104	15	119	4.2	0.6	4.8
11-12	2,430	17	2	19	0.7	0.1	0.8
Total	19,160	5,012	698	5,710	26.2	3.6	29.8

¹ Estimated for 1936² Enrolment expressed as a percentage of the estimated population in the corresponding age-group³ Estimates only (on basis of enrolment in the different classes in Government and aided schools)

(c) Indian (Tamil) Vernacular Schools

The full course lasts for six years, but very few of the children remain in school long enough to complete the full course. Tamil is used as the medium of instruction throughout the course. The usual training in "the three R's" is given, with composition and geography in the higher classes, but suitable textbooks in Tamil are difficult to obtain for certain subjects. The Tamil schools are not able to give much practical education, and are generally behind the Malay schools in this respect.

There are no Government Tamil schools in the S.S., but there are thirteen Government Tamil schools in the F.M.S. The other schools may be estate, mission or private schools run for profit by the proprietor-teacher. The estate schools are those established, some voluntarily and others on the order of the Controllor of Labour, on the various estates employing Indian labourers. The education is entirely free on the estates, and for poor children in the mission

schools. In most cases the teachers have been educated in India, but, as the salary paid is generally very small, nearly all the teachers are untanned. Attendance is not compulsory for Indian children.

The data regarding Tamil vernacular education are given in Tables 7 and 8, and shown graphically in Diagrams 3C and 4C. As in the case of Malays and Chinese, it is seen that girls' education lags far behind that of boys', although there appears to be a need for expansion even in the latter. The most outstanding feature revealed in the figures and diagrams is the enormous wastage, with the resulting disproportionate number of pupils enrolled in the first (i.e. the primary) class. It is clear that there must be a large number of over-age and/or retarded pupils in this class, and probably also in the higher classes.

II English Education

The "English" schools, i.e. schools in which English is the sole medium of instruction, are open to pupils of any race or class. The majority of the pupils are Chinese, 70 per cent and 48 per cent in the S.S. and F.M.S. respectively, but there are also some pupils of almost every racial origin in these schools. The training covers a period of eleven years, seven years' primary and four years' secondary work. The pupils in the last two years of the secondary course prepare for the Cambridge Junior and School Certificate Examinations. Attendance is not compulsory in English schools.

The English schools are of three types

- (a) Preparatory (feeder) schools for secondary schools
- (b) Secondary schools with primary departments
- (c) Purely secondary schools

The mission schools are generally of the second type, as they prefer (on religious grounds) to keep their pupils from infancy to adolescence. The Government, other aided and private schools are of various types. The Government afternoon schools (in Singapore, S.S. only) are schools using in the afternoon the buildings of the Government schools which have morning sessions only. They are staffed by qualified teachers who are without employment, and accommodate pupils who are unable to gain admission to the morning schools. The promising boys in afternoon schools are drafted into morning schools as opportunity occurs.

As mentioned above, there are special two-year Malay classes to enable pupils from the Malay vernacular schools to enter the English schools. The Malay pupils enter these special classes after passing Standard IV in the Malay vernacular schools, and are given an intensive training in speaking and writing English. At the end of this period the majority join Standard IV in the English schools, but the best pupils are usually able to join Standard V, and the others may be so poor as to be fit only for Standard III.

Fees in "English" Schools

Fees are charged in all "English" schools, but "free" education may be granted under certain circumstances in the Government and aided schools. Free education to children of races other than Malay is granted in necessitous cases, usually where there has been an unforeseeable change in the circumstances of the parents after the children have started school. The mission schools are permitted to give free education at Government expense to 5 per cent of their pupils in classes up to and including Standard VI, and to 10 per cent of the pupils in their secondary classes. The Malay pupils are treated differently, and the regulations are different for boys and girls. Malay boys are received as free scholars if they pass Standard IV in a vernacular school in time to join the English school before the age of 11. In addition, some are given scholarships of £12 12s 0d to £14 a year in the S S and £11 4s 0d to £14 a year in the F M S. Malay girls may be granted free education if they pass Standard III in a vernacular school and if they are of reasonable age. In addition, in the F M S some girls may receive scholarships of £14 a year. The girls are not placed in special classes, but receive what special treatment is possible. The percentage of pupils of the different races receiving free education in the Government and aided schools are shown in Tables 13 and 14 for the S S and F M S respectively. It will be seen that the proportion of Malays receiving free education is very large. In actual numbers, however, there are more Chinese than Malay pupils receiving free education in the S S, but the position is reversed in the F M S. It has been impossible to ascertain the number of Malay pupils who enter English schools without first passing through a vernacular school, but it is hoped that detailed statistics of enrolment by race in each class may become available in later reports.

Enrolment

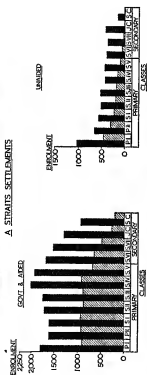
The data of enrolment in the different classes in Government and aided and unaided schools in the S S and F M S are shown in Tables 9 and 11 respectively (excluding Malay boys enrolled in the Special Malay classes). These have been presented graphically in Diagram 5 on page 111. It will be seen that the enrolment is greatest in the higher standards of the primary course. This is partly due to the Malay pupils from the Special Malay classes entering these higher standards, and partly to a fall in the number of admissions in recent years. Wastage and retardation appear to be negligible, but accurate figures in regard to these factors are not available.

The data of enrolment in the English schools for the different races are given in Tables 10 and 12, which show also the enrolment expressed as a percentage of the estimated (unmarried) 6-17 population. These latter figures have been presented graphically in Diagram 6 on page 111. It is rather surprising to note the small

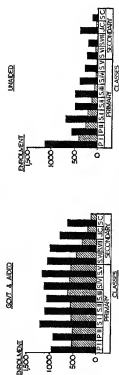
DIAGRAMS 5 AND 6—ENGLISH EDUCATION IN BRITISH MALAYA, 1936

Enrolment in the different classes in English schools and enrolment as a percentage of the estimated 6-17 years population for each race (Straits Settlements and Federated Malay States only)

ENROLMENT IN THE DIFFERENT CLASSES IN ENGLISH SCHOOLS (ALL RACES)



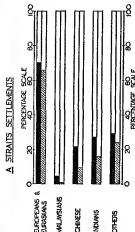
B FEDERATED MALAY STATES



(INCLUDING SPECIAL MALAY CLASSES)

Diagram 5

PERCENTAGE ENROLMENT TO ESTIMATED 6-17 YRS POPULATION (BY RACES)



B FEDERATED MALAY STATES

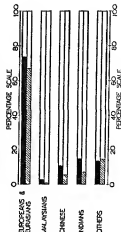


Diagram 6

TABLE 9—STRAITS SETTLEMENTS, 1936 ENROLMENT IN "ENGLISH" SCHOOLS (ALL RACES)

CLASSES	BOYS				GIRLS			
	GOVERNMENT AND AIDED			UNAIDED	GOVERNMENT AND AIDED			UNAIDED
	MORNING	AFTER NOON	TOTAL		MORNING	AFTER NOON	TOTAL	
Primary								
I	1,693	108	1,801	1,034	892	4	896	455
II	1,493	124	1,617	649	920	3	923	304
Standard								
I	1,510	96	1,606	566	933	—	933	232
II	1,631	88	1,719	516	872	—	872	195
III	1,648	103	1,751	528	877	—	877	182
IV	1,945	67	2,012	423	917	—	917	152
V	1,844	91	1,935	432	685	—	685	96
VI	1,504	88	1,592	394	650	—	650	56
VII	1,471	54	1,525	370	485	—	485	32
J C	1,252	43	1,295	417	274	—	274	12
S C	929	10	939	152	208	—	208	6
Total	17,010	872	17,882	5,481	7,713	7	7,720	1,722

In addition, there are 338 Malay boys enrolled in the Special Malay classes of Government and aided schools

TABLE 10—STRAITS SETTLEMENTS, 1936 ENROLMENT IN "ENGLISH" SCHOOLS BY RACES

RACE	ESTIMATED ¹ POPULATION, 6-17 YEARS		ENROLMENT		PERCENTAGE ²	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Europeans and Eurasians	2,530	2,385	1,790	1,573	70.75	65.9
Malays	36,600	34,500	1,709	170	4.67	0.49
Chinese	77,300	66,400	16,755	6,333	21.7	9.54
Indians	11,300	6,900	3,090	1,106	27.3	16.0
Others	1,214	1,078	357	260	29.4	24.1

¹ Estimated for 1936 (unmarried)

² Enrolment expressed as a percentage of the estimated 6-17 years population (unmarried)

TABLE 11—FEDERATED MALAY STATES, 1936
ENROLMENT IN "ENGLISH" SCHOOLS (ALL RACES)

CLASS ¹	BOYS		GIRLS	
	GOVERNMENT AND AIDED	UNAIDED	GOVERNMENT AND AIDED	UNAIDED
Primary I	962	1,128	527	401
" II	928	557	517	246
Standard I	1,203	678	541	207
" II	1,107	487	560	123
" III	1,062	488	615	68
" IV	1,219	390	578	38
" V	1,171	279	552	14
" VI	1,056	229	446	46
" VII	997	207	315	5
Junior Classes	778	391	190	41
Senior Classes	622	119	127	1
Total	11,105	4,953	4,968	1,190

In addition, there are 686 boys and 23 girls (Malays) enrolled in the Special Malay classes of Government and aided schools

TABLE 12—FEDERATED MALAY STATES, 1936
ENROLMENT IN "ENGLISH" SCHOOLS BY RACES

RACE	ESTIMATED POPULATION, 6-17 YEARS		ENROLMENT		PERCENTAGE ²	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Europeans and Eurasians	920	890	683	597	74.2	67.1
Malays	85,200	75,400	2,688	365	3.15	0.48
Chinese	71,200	57,500	7,773	3,150	10.9	5.48
Indians	37,100	26,820	5,408	1,936	14.6	7.22
Others	1,410	910	192	133	13.6	14.6

¹ Estimated for 1936 (unmarried)

² Enrolment expressed as a percentage of the estimated 6-17 years population (unmarried)

TABLE 13—STRAITS SETTLEMENTS, 1936 NATIONALITY AND SEX OF PUPILS RECEIVING FREE EDUCATION IN "ENGLISH" SCHOOLS (GOVERNMENT AND GOVERNMENT-AIDED ONLY)

	NUMBERS RECEIVING FREE EDUCATION ¹		ENROLMENT IN GOVERNMENT AND AIDED ENGLISH SCHOOLS ²		PERCENTAGE OF PUPILS RECEIVING FREE EDUCATION	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Europeans and Eurasians	295	361	1,517 ³	1,438 ³	19.4	25.1
Malayans	904	61	1,374	141	65.8	43.3
Chinese	1,112	291	11,848	5,080	9.4	5.7
Indians	182	52	1,981	818	9.2	6.4
Others	27	15	225	225	12.0	6.7
Total	2,520	780	16,945	7,702	14.9	10.1

¹ According to Appendix IX, page 96, Annual Education Report² According to Appendix XXI, page 113, excludes pupils enrolled in Government afternoon "English" schools, Annual Education Report³ Eurasians only

TABLE 14—FEDERATED MALAY STATES, 1936 NATIONALITY AND SEX OF PUPILS RECEIVING FREE EDUCATION IN "ENGLISH" SCHOOLS (GOVERNMENT AND GOVERNMENT-AIDED ONLY)

RACES	NUMBERS RECEIVING FREE EDUCATION ¹		ENROLMENT IN GOVERNMENT AND AIDED ENGLISH SCHOOLS ²		PERCENTAGE OF PUPILS	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Europeans and Eurasians	75	123	529 ³	446 ³	14.2	27.6
Malayans	1,580	204	2,373	363	66.6	56.2
Chinese	357	261	5,486	2,812	6.5	9.3
Indians	131	106	3,102	1,592	4.2	6.7
Others	7	20	94	104	7.5	19.2
Total	2,150	714	11,584	5,317	18.6	13.4

¹ According to Appendix IX, page 93, Annual Education Report² According to Appendix XXI, page 111, Annual Education Report³ Eurasians only

percentages for Malays, but these figures may underestimate the true position, as the ages of the pupils were not given. The percentages are small also for the other races, except for Europeans and Eurasians, but this is due mainly to the fact that the majority of children attend vernacular schools.

It would be useful and interesting to know what proportion of the children of each race are actually enrolled in schools—vernacular and English, but in the absence of accurate age statistics for the children enrolled in schools it is impossible even to estimate this proportion. In this connection it should be noted that the various percentages shown in Appendices XXI in the *Annual Reports on Education in the Straits Settlements and Federated Malay States for the year 1936* do not present a true picture. In the first place, the total population figures shown refer to the 1921 census, and not the 1931 census. Secondly, the enrolment is shown as a percentage of the 5-20 years population, and none of the courses covers a period of fifteen years. Thirdly, the enrolment figures in the different schools are added together without taking into account the length of the course in each. The figures given in these appendices form a very valuable summary of enrolment figures, but they would be more useful if the percentage figures were adjusted and shown in a different form.

Co-education is not a policy of the department, and separate schools are arranged for boys and girls wherever possible. There are a few boys in girls' schools and also a few girls in boys' schools, but the numbers are very small, and this is allowed only where facilities for the girls (or boys) do not yet exist.

III Vocational and Higher Education

A STRAITS SETTLEMENTS

(i) Technical Education

There were no technical schools conducted by the Education Department, but there was one private technical school in Singapore. In addition, pupils from the Straits Settlements may be admitted to the Government Technical School at Kuala Lumpur in the F.M.S., and a certain amount of technical training could be obtained at evening classes, i.e. as adult education.

(ii) Commercial Education

There were four Government and aided institutions which give a complete commercial education. These were the Commercial Departments of Raffles Institution, the St. Joseph's Institution and the French Convent in Singapore, and the Government Commercial Day School, Penang. The students are expected to hold the Cambridge Junior Certificate at least, and the course lasts from 1½ to 2 years. In Singapore, the Young Men's Christian Associa-

tion and two private schools give a fairly complete course in commercial subjects to pupils past the ordinary school age, and other schools give a certain amount of commercial training, but not a complete commercial education

(iii) *Industrial Education*

There are three Government and aided schools which give an industrial education—the Government trade school in Singapore, the trade school in Penang and the trade school in Malacca. There is also a private trade school in Singapore. The Government trade school in Singapore supplies three-year courses in general mechanics, electrical training and plumbing. The Penang trade school supplies a three-year course in general mechanics, the Government remits the fees of 25 per cent of the students. The Malacca trade school supplies a two-year training in carpentry, assistance was given to a number of needy and deserving students

(iv) *Musical Education*

There were two private schools of music registered in the Colony, one in Singapore and one in Penang

(v) *Teacher Training*

(a) *Teachers in Malay Vernacular Schools*

Pupils of the Malay vernacular schools who are to become teachers are first appointed pupil teachers. They study and teach until the age of 16, when they sit for an examination and, if successful, are admitted to the Sultan Idris Training College, Tanjong Malim. Here they are given a three-year course in ordinary school subjects, handicrafts and gardening, and practical teaching. The medium of instruction is Malay. There were 371 pupils at the Sultan Idris Training College in 1936, 167 from the F.M.S., 104 from the S.S., 86 from the Unfederated Malay States, 2 from Brunei, 2 from Sarawak, 5 students taking a post-graduate course and 5 craft students

(b) *Teachers in Chinese Vernacular Schools*

There was no Government Chinese "teachers" training class in the S.S., but four girls' schools in Singapore and two in Penang had "normal" sections. The majority of men teachers have been educated in China, but the teachers of English were usually pupils of the local English schools.

(c) *Teachers in Tamil Vernacular Schools*

There were no facilities available in the S.S. for training these teachers

(d) Teachers in English Schools

Teachers in the English schools who are appointed locally are recruited from Raffles College graduates or teachers (women only) who have completed the three-year primary normal class course.

The data relating to vocational education are shown in the table below, which shows the enrolment by race in the different Government and private vocational schools.

(vi) University and Collegiate Education

Post-secondary education is supplied by the King Edward VII College of Medicine and Raffles College, neither of which is directly connected with the Education Department, although the Director of Education is a member of both governing councils. There were 65 boys and 20 girls from the S S attending Raffles College, and 156 boys and 32 girls from the S S attending the College of Medicine.

TABLE 15—RACES OF PUPILS ENROLLED IN GOVERNMENT AND PRIVATE VOCATIONAL SCHOOLS (ACCORDING TO APPENDIX XXI, PAGE 113, ANNUAL EDUCATION REPORT)

RACE	ENROLMENT	
	MALE	FEMALE
Eurasians	187	73
Malaysians	208	27
Chinese	621	103
Indians	113	14
Others	16	7
Total	1,145	224

In addition, two Queen's Scholarships are awarded annually, and there appear to be some 285 ex-students from the S S pursuing higher studies at universities.

There are no professional colleges or institutions under the control of the Education Department in the S S. Students from the S S may, however, attend the Technical School at Kuala Lumpur, or the School of Agriculture, in the F M S.

B FEDERATED MALAY STATES

(i) Technical Education

Technical education was given only in the Technical School, Kuala Lumpur. This institution is described later under University and Collegiate Education, as it is classed in the Report as a School or College of Engineering.

(ii) *Commercial Education*

There are no commercial schools or departments, but a certain amount of commercial training appears to be given in the English schools

(iii) *Industrial Education*

The three trade schools in the F.M.S. were at Kuala Lumpur, Ipoh and Bagan Serai. The courses at Kuala Lumpur and Ipoh are of three years' duration and are designed to train youths to be fitters and motor mechanics. The majority of the pupils receive free education and a subsistence allowance, Malays are given preference in the selection of applicants for admission to these schools. The third school supplies a three-year course in carpentry and elementary cabinet-making to Malays of the neighbouring villages. The pupils do not receive subsistence allowances, and there is not the same keenness to enter the carpentry school as is the case in the other two schools at Kuala Lumpur and Ipoh.

(iv) *Teacher Training*(a) *Teachers in Malay Vernacular Schools*

Regulations and conditions are the same as in the S.S. (see A v (a) above). Normal classes for the training of Malay women teachers are supplied at two centres, Kuala Lumpur and Klang.

(b) *Teachers in Chinese Vernacular Schools*

Normal classes were started, with the consent of the Department, in 1936 in two schools in Selangor (one boys' and one mixed). The courses in Selangor extend for four years after higher primary, but in Perak one course (of two years) starts from second-year junior middle and one (of three years) from first year junior middle.

(c) *Teachers in Tamil Vernacular Schools*

There are no facilities in the F.M.S. for Tamil teacher training, the teachers in these schools have received their education and training in India.

(d) *Teachers in English Schools*

Locally appointed teachers in the English schools are usually trained at normal classes held at two centres in Perak and at one centre in each of the other three states. The students, men and women, are required to possess Cambridge School Certificates, and are attached to an English school for three years of study and teaching. Their certificates are awarded after passing an examination at the end of the three years and teaching for two further years in a school. In addition, a normal class for women teachers only was started in Selangor in 1936.

The data relating to enrolment in vocational schools are shown in Table 16

(v) *University and Collegiate Education*

There are no facilities available for arts and science university education in the F.M.S., but students may attend Raffles College or the King Edward VII College of Medicine in the Straits Settlements. In addition, there are two Queen's Scholarships awarded annually, one of which is reserved for Malays.

There are two professional colleges, the Technical School at Kuala Lumpur and the School of Agriculture, Serdang. The Technical School offers full-time instruction in engineering, courses are offered in civil, mechanical, electrical and telephone and telegraph engineering. The majority of the students are trained for technical posts in Government service, but a few private

TABLE 16—RACES OF PUPILS ENROLLED IN GOVERNMENT AND PRIVATE VOCATIONAL SCHOOLS (ACCORDING TO APPENDIX XXI, PAGES 110, 111, ANNUAL EDUCATION REPORT)

RACE	ENROLMENT	
	MALE	FEMALE
Eurasians	13	Nil
Malaysians	655	
Chinese	92	
Indians	30	
Others	2	
Total	792	

fee-paying students are admitted. The students seeking admission must have had a good secondary education and preferably some training in elementary science.

The School of Agriculture is not under the control of the Education Department, but is conducted by the Agricultural Department. Two courses are offered in Malayan agriculture, one a two-year course using English as the medium of instruction, and the other a one-year course with Malay as the medium of instruction. Students seeking admission for the two-year course must hold at least the Cambridge School Certificate or its equivalent, but pupils for the one-year course need have passed only the highest standard in a Malay vernacular school or the fifth standard in a local English school. Students and pupils of all races and parts of British Malaya are admitted, about one-half of the students are private and fee-paying.

IV. Analysis of Expenditure on Education

The expenditure figures given refer to the gross expenditure¹ on education from Colonial Revenue, i.e. expenditure on Personal Emoluments and by the Education and Public Works Departments. The data are given in Tables 17 and 18 for the Straits Settlements and Federated Malay States, respectively. These figures have been presented graphically in Diagrams 7, 8 and 9 on page 121.

Diagram 7 shows the gross expenditure on different types of schools. It will be seen that a very large proportion of the expenditure is on English and Malay vernacular schools—91.5 per cent and 88.3 per cent in the S.S. and F.M.S. respectively. In comparing the expenditure on different types, it should be remembered that the courses offered do not cover the same period of time—for example, the English primary course covers a period of seven years, while the English secondary course covers a period of four years. It is interesting to note that in the F.M.S. approximately the same amount of money is allocated to English as to Malay vernacular education, whereas in the S.S. more than three times as much is allocated to English as to Malay vernacular education.

Gross Expenditure on Different Types of Schools

TABLE 17—STRAITS SETTLEMENTS, 1936 (ACCORDING TO TABLE ON PAGE 24, AND APPENDIX XXII, PAGE 114, ANNUAL EDUCATION REPORT)

TYPES	GROSS EXPENDITURE	PERCENTAGE EXPENDITURE	ENROLMENT IN GOVERNMENT AND AIDED SCHOOLS	COST PER PUPIL IN GOVERNMENT AND AIDED SCHOOLS
<i>English</i>				\$
Secondary	891,055	25.2	6,648	134
Primary	1,577,210	44.5	18,240	86.4
<i>Vernacular</i>				
Malay	773,457	21.8	25,346	30.5
Chinese	130,103	3.7	12,550	10.4
Tamil	12,937	0.4	2,280	5.7
Commercial	44,065	1.2	223	197
Trade	114,101	2.6	228	403
Technical (Evening Classes)		0.6	529	44
Total	3,542,928	100.0	66,014	53.7

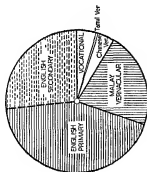
Diagram 8 shows the cost per pupil to Colonial Revenue in the different types of Government and aided schools. The figures showing total cost per pupil to all funds are not available, but they would be different in many cases, as the present figures depend on the proportion of, and grant paid to, aided schools of each type.

¹ Including expenditure by Education Board in the S.S.

DIAGRAMS 7, 8 AND 9—ANALYSIS OF TOTAL EXPENDITURE ON EDUCATION IN BRITISH MALAYA 1936

Diagram 7
Expenditure on different types of schools

A STRAITS SETTLEMENTS



B FEDERATED MALAY STATES

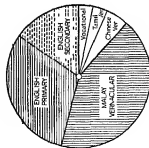
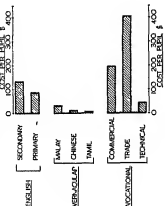


Diagram 8

Cost per pupil in different types of Government and Aided Schools

A STRAITS SETTLEMENTS



B FEDERATED MALAY STATES

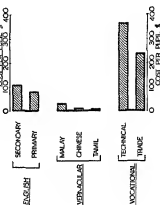
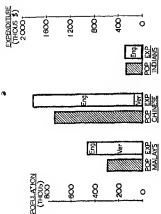


Diagram 9

Estimated population and expenditure on different races

A STRAITS SETTLEMENTS



B FEDERATED MALAY STATES

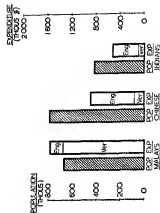


TABLE 18—FEDERATED MALAY STATES, 1936 (ACCORDING TO TABLE ON PAGE 21, AND APPENDIX XXII, PAGE 112, 3, ANNUAL EDUCATION REPORT)

Types	GROSS EXPENDITURE	PERCAPITA EXPENDITURE	ENROLMENT IN GOVERNMENT AND AIDED SCHOOLS	COST PER PUPIL IN GOVERNMENT AND AIDED SCHOOLS
<i>English</i>				\$
Secondary	490,016	15.4	4,618	106
Primary	972,534	30.7	12,296	79.0
<i>Vernacular</i>				
Malay	1,337,195	42.2	49,241	27.2
Chinese	163,576	5.2	19,887	8.3
Tamil	103,506	3.2	15,844	6.5
<i>Vocational</i>				
Technical	} 105,107	1.0	91	463
Trade		2.3	310	236
Total	3,171,934	100.0	102,267	31.0

For example, the Malay vernacular schools are all Government, but the Chinese and Tamil schools are almost entirely aided. It will be seen that the cost per pupil in vocational schools is much greater than in any of the other types. It should also be remembered that technical education in the Straits Settlements is given in evening classes and not in technical schools.

Diagram 9 shows the estimated Malay, Chinese and Indian population for 1936 (shaded columns) and the estimated expenditure on each race in English and vernacular schools. The expenditure on English education shown in this diagram is proportional to the number of pupils of each race in these schools. It was impossible, under the circumstances, to obtain exact figures, and it was felt that these were the best estimates obtainable at present. It will be seen that, in proportion to total population, more is spent on Malays than on members of the other races. This is particularly true in the F.M.S., where both the total and proportional expenditure on Malays is very much greater than that for other races. In both cases, however, the expenditure on Malay education appears to be mainly for the vernacular schools.

V Increase of Enrolment in Malay Vernacular and English Schools and Expenditure on Education (1920-36)

The data relating to enrolment and expenditure are shown in Tables 19-21. The enrolment figures given are average enrolment for the year, the enrolment varies from term to term, as parents may migrate or be transferred. These data, therefore, do not correspond to those given in previous tables, which refer to enrolment on

a particular day of the year. It was felt, however, that the figures of average enrolment would give a truer picture of the growth of education.

It is difficult to determine the total expenditure on education, as the figures given in different tables do not always agree. For example, for the Straits Settlements in 1936 we find from Appendix XXII, page 114, that the Education and Public Works Departments spend \$3,542,928 on education, in Chapter III, page 23, that the total expenditure was \$3,309,122, from General Table II, page 80, that the total expenditure from all sources was \$4,166,301, of which \$2,367,762 was from Colonial Revenue, and from General Table VI, page 87, that the total expenditure was \$4,166,301, but the expenditure from Colonial Revenue was \$2,736,027. These discrepancies are not discussed in the reports, and it is difficult to decide just what is expenditure from Colonial Revenue. It was decided, however, to choose certain sets of figures (see footnotes to included tables) and give only those for each year.

(a) *Enrolment in Malay Vernacular Schools*

The data (for boys and girls) are given in Table 19, Columns 3 and 5 for the S S and F M S respectively, and shown graphically in Diagram 10 on page 126. It will be seen that the enrolment has increased rapidly since 1920, increases of 88 per cent and 132 per cent in the S S and F M S respectively. The Malay population has also increased during this period, but not at as rapid a rate. The percentages of average enrolment to Malay population for the two census years 1921 and 1931, and for 1936 are shown in Table 20 on page 124.

It is doubtful if the enrolment will continue to increase at its present rate, as it would appear (see above discussion and Diagrams 3B and 4B) that the majority of the Malay boys of the appropriate age are already enrolled in schools. The education of girls could be expanded, but this depends on many factors, some of which, e.g. the attitude of the parents, are beyond the control of the Department of Education. The population seems to be increasing, however, so additional facilities will have to be arranged to cope with this increase.

Separate figures for average enrolment of boys and girls could not be obtained, as the figures are given separately only for boys' schools and girls' schools. In the S S at the end of November 1936, for example, there were 3,334 girls enrolled in girls' schools and 3,293 girls enrolled in boys' schools, so that the figures by type of school would be of little value for this purpose.

(b) *Enrolment in English Schools*

English schools have been in existence for over 60 years, but the period 1920-36 was chosen for this survey because of the change in the grant-in-aid system resulting from the report of the 1919

TABLE 19—GROWTH OF MALAY VERNACULAR AND ENGLISH EDUCATION (GOVERNMENT AND AIDED SCHOOLS ONLY)

YEAR	STRAITS SETTLEMENTS		FEDERATED MALAY STATES	
	AVERAGE ENROLMENT IN ENGLISH SCHOOLS ¹	AVERAGE ENROLMENT IN MALAY VERNACULAR SCHOOLS ¹	AVERAGE ENROLMENT IN ENGLISH SCHOOLS ¹	AVERAGE ENROLMENT IN MALAY VERNACULAR SCHOOLS ¹
1920	17,502	12,979	9,061	20,319
1921	18,561	14,100	9,983	21,865
1922	19,157	14,943	10,757	24,333
1923	19,384	16,024	11,519	25,176
1924	20,472	16,891	12,754	27,410
1925	21,721	17,687	13,876	29,227
1926	21,741	17,719	14,755	30,261
1927	23,155	18,044	15,702	31,298
1928	24,078	19,555	16,449	32,755
1929	24,830	20,471	17,377	37,346
1930	25,723	22,305	18,155	39,006
1931	26,282	23,009	18,309	40,408
1932	26,381	23,657	17,477	41,273
1933	25,157	22,843	16,417	39,976
1934	25,071	23,497	15,808	41,597
1935	25,293	23,815	16,496	43,146
1936	25,140	24,459	16,885	47,101

¹ Average enrolment for the year

TABLE 20—PERCENTAGE OF AVERAGE ENROLMENT IN MALAY VERNACULAR SCHOOLS TO TOTAL MALAY POPULATION

YEAR	PERCENTAGE OF AVERAGE ENROLMENT IN MALAY VERNACULAR SCHOOLS TO TOTAL MALAY POPULATION	
	S S PERCENTAGE	F M S PERCENTAGE
1921	5.53	4.28
1931	8.07	7.08
1936	8.28	7.12

TABLE 21—PERCENTAGE OF EXPENDITURE ON EDUCATION FROM COLONIAL REVENUE TO TOTAL EXPENDITURE FROM COLONIAL REVENUE, 1929-36

YEAR	PERCENTAGE OF EXPENDITURE ON EDUCATION FROM COLONIAL REVENUE TO TOTAL EXPENDITURE FROM COLONIAL REVENUE ¹	
	STRAITS SETTLEMENTS	FEDERATED MALAY STATES
1929	6.56	5.10
1930	8.00	4.91
1931	5.69	6.48
1932	6.81	6.25
1933	6.78	6.00
1934	6.57	5.70
1935	5.99	6.02
1936	7.00	6.37

¹ According to General Table II of the Annual Education Reports (data are not available for years 1920-1928, inclusive)

TABLE 22—EXPENDITURE ON EDUCATION

YEAR	STRAITS SETTLEMENTS		FEDERATED MALAY STATES	
	EXPENDITURE BY EDUCATION DEPARTMENT ¹	TOTAL EXPENDITURE FROM COLONIAL REVENUE	EXPENDITURE BY EDUCATION DEPARTMENT ¹	TOTAL EXPENDITURE FROM COLONIAL REVENUE
1920 ²	1,463,299	"	1,359,169	"
1921	1,462,158		1,504,078	
1922	1,644,746		1,805,058	
1923	1,910,866		1,867,936	
1924	2,307,380		2,463,920	
1925	2,439,021		2,684,893	
1926	2,939,915		3,215,528	
1927	3,049,996		3,833,578	
1928	3,141,690		4,308,363	
1929	3,460,686	2,472,124	4,320,961	4,320,961
1930	3,722,265	2,620,755	4,055,921	4,055,921
1931	3,808,520	2,667,708	4,030,051	4,030,051
1932	3,533,567	2,431,951	3,313,896	3,361,821
1933	3,016,003	2,068,321	2,926,059	3,050,565
1934	3,000,252	2,034,803	2,628,197	2,691,055
1935	2,998,758	2,082,432	2,907,399	3,077,932
1936	3,309,122	2,367,762	3,231,122	3,359,761

¹ According to tables given in Chapter III of the Annual Education Reports. It includes expenditure by the Education Board in the S.S.

² According to General Table II in the Annual Education Reports (data are not available years 1920-28, inclusive)

³ Includes 1919 grants to aided English schools

DIAGRAM 10—GROWTH OF MALAY VERNACULAR AND
ENGLISH EDUCATION, 1920-36

(Government and Aided Schools only)

AVERAGE ENROLMENT
(THOUSANDS)

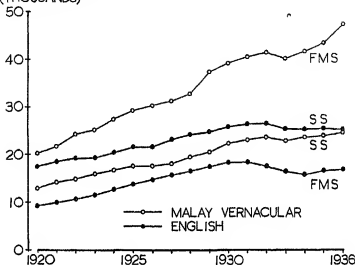
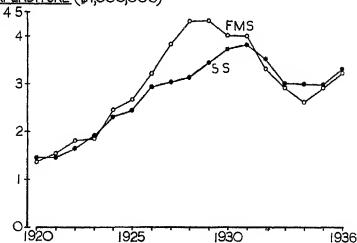


DIAGRAM 11—INCREASE OF TOTAL EXPENDITURE BY
EDUCATION DEPARTMENT, 1920-36

EXPENDITURE (\$1,000,000)



Committee Since 1920 the aided schools have been considered as an integral part of the scholastic system, and their equipment, staff, etc., are equivalent to that in Government schools Complete statistics are not available for enrolment in unaided schools

The data regarding average enrolment in the Government and aided schools for this period are given in Columns 2 and 4 of Table 19, and shown graphically in Diagram 10 It will be seen that the average enrolment in these schools increased steadily until 1931, but decreased during the depression years and is still considerably below the 1931 level It appears that English education was affected more than Malay education by the necessary economies during the last five years, and that the effect was more marked in the F M S than in the S S This, probably, was due mainly to the policy of encouraging Malay education, and, also, to altered circumstances of parents who probably found it difficult to pay the fees and other expenses connected with the education of their children It must be remembered, too, that the education in the Malay vernacular schools is entirely free

(c) *Expenditure on Education*

As explained above, it is difficult to determine exactly what is the expenditure on education from Colonial Revenue, or even the total expenditure on education Table 22, however, shows the total expenditure by the Education Department (Columns 2 and 4) and the total expenditure from Colonial Revenue (Columns 3 and 5) In addition, Table 21 shows the percentage of expenditure on education from Colonial Revenue to total expenditure from Colonial Revenue (according to General Table II of the Annual Education Reports) The figures for total expenditure by the Education Department have been presented graphically in Diagram 11

It will be seen that the expenditure increased until 1929 in the F M S, and until 1931 in the S S The expenditure dropped to the 1925 or 1926 level during the depression, but has started to increase fairly rapidly once more It should be noted, however, that the percentage of expenditure on education from Colonial Revenue (see Table 21) did not decrease to any marked extent, the values have been between 6 per cent and 7 per cent during most of this period

R W B JACKSON

SECTION THIRTEEN

Regional Provision for Post-primary Education in England¹

CHAPTER ONE

SENIOR SCHOOLS OR DEPARTMENTS

Introduction

THE Education Act, 1918 (Section 2 (ii)) stated that "It shall be the duty of a Local Education Authority so to exercise its powers as to make, or otherwise to secure, adequate and suitable provision by means of central schools or special classes, or otherwise for organising in public elementary schools courses of advanced instruction for the older or more intelligent children" The Education Act, 1921, Section 20, repeated the requirement Thus the policy of reorganisation was formulated by the Board of Education as early as 1918 The division of the old elementary school horizontally into three stages, i.e. infant, junior and senior, however, was not definitely stated In 1925, the Board issued Circular 1350, which stated "In future the Board will find it difficult to approve any scheme of school planning which fails to make provision for the advanced instruction of children over the age of 11, by giving opportunities for suitable classification and organisation" The age 11 plus was for the first time officially given as the dividing line between the junior and senior departments The Hadow Report, published in 1926, discussed the proposed reform from all points of view and adumbrated a definite scheme Although psychologists disputed the selection of 11 plus as the right age for division, the Hadow scheme was very favourably received both in England and in the British Dominions The Board of Education, by issuing in 1928 Pamphlet No. 60 on *The New Prospect in Education*, officially confirmed the findings of the Hadow Report and reorganisation was started in earnest Owing to certain features inherent in the system of education, inherited from the past, which will be discussed later, the Board did not introduce any compulsory measures and the L.E.A.s were left free to select the date for the beginning of reorganisation Many authorities started new senior schools, even before 1925, and some had completed their schemes before the Hadow Report appeared The majority, however, started reorganisation much later, and a considerable group had not started reorganisation even by 1937

It is impossible, owing to lack of space, to give here detailed figures

¹ I am indebted to the Board of Education for permission to study and to use some of their unpublished statistics, but the Board are in no way responsible for the conclusions which I draw from them

for all local authorities. We have grouped them in Table 1, therefore, into 42 areas coinciding with the geographical counties. We have also omitted the division by sexes since, in the great majority of areas, there is no substantial difference between the provision for boys and girls. We have divided the geographical counties again into urban and rural areas, the first including the urban areas of the administrative counties, county boroughs and Part III authorities. The second column of the table gives the number of pupils of 11-12 years in 1935 in all departments of public elementary schools. The third column gives the number of pupils of 13-14 years in 1937 in senior schools or departments. The so-called higher tops in rural schools and senior divisions in all-age departments are not included. Thus the table shows how many pupils of the same age-group proceeded to senior schools, and column four shows the percentage. It must be remembered that a certain percentage, from ten to twenty, of the age-group has proceeded to secondary and other schools, so that in calculating the degree of completeness of reorganisation we must add this figure to that given in column four. We must also consider the possible migration of senior pupils from the rural areas to urban schools.

Analysis by Type of L E A ¹

Detailed tables, not given here, show that in 1937, 13 urban county areas, or 27·7 per cent of urban areas, 35 county boroughs (44·3 per cent) and 62 Part III authorities (40·5 per cent) had 70 per cent or more of their age-groups in senior schools. Bearing in mind the numbers of pupils who entered secondary and other schools, it is safe to assume that these authorities nearly completed their reorganisation. We shall deal now with each group of authorities separately.

Counties Urban Areas

As shown above, thirteen county urban areas have nearly completed their reorganisation. We give here the areas, with the percentages in parenthesis:

Bedfordshire (96·2)	Nottinghamshire (78·8)
Essex (77·7)	Rutland (120·3)
Kent (79·6)	Staffordshire (75·9)
Leicestershire (71·1)	Surrey (72·2)
Lincoln-Lindsey (70·4)	Sussex East (70·0)
London (70·0)	Wiltshire (73·9)
Middlesex (79·5)	

Bedfordshire and Rutland show more pupils in senior and secondary schools than in the corresponding age-groups of 11 plus pupils in elementary schools. Of these areas only Bedfordshire, Middlesex and Rutland have completed the reorganisation. Twenty urban areas have provided for more than half of their age-groups of 11 plus pupils. These are

¹ Only forty authorities have completed reorganisation and only one (Isles of Scilly) has not yet prepared a scheme of reorganisation.

Buckinghamshire (47 6)	Northumberland (41 9)
Cheshire (44 3)	Oxfordshire (56 6)
Devonshire (53 3)	Shropshire (52 2)
Dorsetshire (51 9)	Somerset (42 4)
Durham (51 9)	Suffolk East (66 5)
Hampshire (53 7)	Sussex West (56 2)
Isle of Wight (50 2)	Warwickshire (50 0)
Hertfordshire (59 9)	Yorkshire North (57 1)
Lancashire (40 0)	Yorkshire West (44 5)
Lincoln-Kesteven (55 4)	Isle of Ely (65 7)

Fourteen areas have provided for less than half of their pupils, and six areas (Cumberland, Herefordshire, Huntingdonshire, Lincoln-Holland, Suffolk West and Westmorland) have no senior departments at all (in 1937)

Counties Rural Areas

Ten rural areas (Cumberland, Isles of Scilly, Isle of Wight, Herefordshire, Huntingdonshire, Lincoln-Kesteven, Soke of Peterborough, Suffolk West, Westmorland and Yorkshire East) have no senior departments, whilst seventeen areas have provided for less than 10 per cent of their pupils (Buckinghamshire, Isle of Ely, Cheshire, Cornwall, Essex, Hereford, Lancashire, Lincoln-Holland, Lincoln-Lindsey, Norfolk, Northumberland, Oxfordshire, Shropshire, Suffolk East, Surrey, Sussex West and Yorkshire North). Only four areas have provided for more than 30 per cent: Derbyshire (30 per cent), Leicestershire (30·8 per cent), Rutland (33·2 per cent), Yorkshire West Riding (33·2 per cent). The remaining sixteen rural areas have provided for from 10 to 30 per cent of their pupils. These figures, however, would be slightly increased if we were to add the pupils of rural schools who entered urban post-primary schools.

TABLE 1—SENIOR DEPARTMENTS BY GEOGRAPHICAL COUNTIES AND BY GROUPS OF PUPILS

GEOGRAPHICAL COUNTIES URBAN AREAS INCLUDE COUNTY BOROUGH AND PART IN AUTHORITIES	NO OF PUPILS OF 11-12 YEARS IN 1935	NO OF PUPILS OF 13-14 YEARS IN SENIOR DEPTS IN 1937	PERCENTAGE OF COL 1102
<i>1</i>	<i>2</i>	<i>3</i>	<i>1</i>
<i>Bedfordshire</i>			
Urban	2,084	1,848	88·9
Rural	1,010	161	15·9
Total	3,094	2,009	65·0
<i>Berkshire</i>			
Urban	2,419	1,802	74·5
Rural	1,755	179	10·2
Total	4,174	1,981	47·5
<i>Buckinghamshire</i>			
Urban	1,699	621	37·2
Rural	1,782	58	3·3
Total	3,481	679	16·7

TABLE 1—continued

GEOGRAPHICAL COUNTIES URBAN AREAS INCLUDING COUNTY BOROUGHES AND PART III AUTHORITIES	NO. OF PUPILS OF 11-12 YEARS IN 1955	NO. OF PUPILS OF 13-14 YEARS IN SENIOR DEPTS IN 1957	PERCENTAGE OF COL. 3 TO 2
1	2	3	4
<i>Cambridgeshire and Isle of Ely</i>			
Urban	1,448	964	66.5
Rural	1,564	268	17.4
Total	3,012	1,232	40.9
<i>Cheshire</i>			
Urban	12,393	6,200	50.0
Rural	2,035	177	8.7
Total	14,428	6,377	44.2
<i>Cornwall</i>			
Urban	2,147	455	21.2
Rural	1,925	59	3.1
Total	4,072	514	12.6
<i>Cumberland</i>			
Urban	2,395	1,055	44.0
Rural	1,964	—	0
Total	4,359	1,055	24.2
<i>Derbyshire</i>			
Urban	7,068	3,915	55.4
Rural	4,692	1,410	30.0
Total	11,760	5,325	44.5
<i>Devonshire</i>			
Urban	6,112	3,460	56.7
Rural	2,871	387	13.5
Total	8,983	3,847	42.8
<i>Dorsetshire</i>			
Urban	1,820	505	27.7
Rural	1,170	116	10.0
Total	2,990	621	20.8
<i>Durham</i>			
Urban	20,653	10,575	51.2
Rural	7,929	1,921	24.2
Total	28,582	12,496	43.7
<i>Essex</i>			
Urban	24,798	18,442	74.4
Rural	2,696	162	6.0
Total	27,494	18,604	67.7
<i>Gloucestershire</i>			
Urban	7,823	5,082	65.0
Rural	3,095	483	15.3
Total	10,918	5,565	51.0
<i>Hampshire and Isle of Wight</i>			
Urban	11,701	5,971	51.0
Rural	2,971	698	23.1
Total	14,672	6,669	45.2
<i>Herefordshire</i>			
Urban	658	82	12.5
Rural	1,061	—	0
Total	1,719	82	4.8
<i>Hertfordshire</i>			
Urban	3,570	2,060	57.7
Rural	1,446	61	4.2
Total	5,016	2,121	42.3

TABLE 1—*continued*

GEOGRAPHICAL COUNTIES URBAN AREAS INCLUDE COUNTY BOROUGH AND PARISH AUTHORITIES	NO. OF PUPILS OF 11-12 YEARS IN 1951	NO. OF PUPILS OF 12-14 YEARS IN SENIOR DEPT. IN 1957	PERCENTAGE OF COI 1 TO 2
1	2	3	4
<i>Huntingdonshire</i>			
Urban	419	—	0
Rural	403	—	0
Total	822	—	0
<i>Kent</i>			
Urban	13,039	8,272	63.6
Rural	9,880	442	11.4
Total	16,919	8,714	51.5
<i>Lancashire</i>			
Urban	42,595	18,966	44.5
Rural	2,556	219	8.9
Liverpool	15,078	6,038	40.0
Manchester	11,145	4,188	37.6
Total	71,378	29,463	41.2
<i>Leicestershire</i>			
Urban	5,116	4,071	79.5
Rural	2,593	797	30.8
Total	7,709	4,868	63.2
<i>Lincolnshire</i>			
Urban	5,868	3,697	63.0
Rural	3,732	131	3.5
Total	9,600	3,828	39.7
<i>London</i>	33,476	37,536	70.0
<i>Middlesex</i>	22,139	14,636	66.1
<i>Norfolk</i>			
Urban	3,494	2,305	65.8
Rural	4,081	340	8.3
Total	7,575	2,645	34.9
<i>Northamptonshire and Soke of Peterborough</i>			
Urban	3,351	2,073	61.9
Rural	1,631	149	9.0
Total	4,982	2,222	44.0
<i>Northumberland</i>			
Urban	11,359	5,795	51.0
Rural	1,497	114	7.6
Total	12,856	5,909	46.0
<i>Nottinghamshire</i>			
Urban	8,579	6,522	76.0
Rural	2,627	317	12.1
Total	11,206	6,839	61.0
<i>Oxfordshire</i>			
Urban	1,558	668	42.8
Rural	1,124	78	6.9
Total	2,682	746	27.8
<i>Rutland</i>			
Urban	59	71	120.3
Rural	193	64	33.2
Total	252	135	49.6
<i>Shropshire</i>			
Urban	1,868	891	47.8
Rural	1,727	56	3.3
Total	3,595	950	26.0

TABLE 1—*continued*

LOCAL AUTHORITY COUNTIES URBAN AREAS INCLUDE COUNTIES BOROUGH AND TOWN IN AUTHORITIES	NO OF PUPILS OF 11-13 YEARS IN 1915	NO OF PUPILS OF 13-14 YEARS IN SENIOR DEPTS IN 1937	PERCENTAGE OF COL 3 TO 2
1	2		3
<i>Somerset</i>			
Urban	3,163	1,795	56.8
Rural	2,889	442	11.8
Total	6,052	2,137	35.3
<i>Staffordshire</i>			
Urban	21,667	17,239	79.5
Rural	2,393	491	20.5
Total	24,060	17,730	74.1
<i>Suffolk</i>			
Urban	3,043	1,763	58.7
Rural	2,723	81	3.0
Total	5,766	1,844	32.0
<i>Sussex</i>			
Urban	12,854	9,238	71.9
Rural	1,290	119	9.2
Total	14,144	9,357	66.0
<i>Sussex</i>			
Urban	5,735	4,296	75.0
Rural	2,991	227	7.6
Total	8,726	4,523	51.6
<i>Warwickshire</i>			
Urban	5,729	3,201	55.9
Rural	2,080	378	18.1
Birmingham	14,760	11,698	79.1
Total	22,569	15,277	67.7
<i>Westmorland</i>			
Urban	402	173	43.0
Rural	478	—	0
Total	880	173	19.7
<i>Wiltshire</i>			
Urban	2,129	1,093	51.3
Rural	1,885	273	14.0
Total	4,014	1,366	34.0
<i>Worcestershire</i>			
Urban	5,036	2,488	49.4
Rural	1,270	227	17.9
Total	6,306	2,715	43.0
<i>Yorkshire, East Riding</i>			
Urban	7,210	3,489	48.4
Rural	1,534	—	0
Total	8,744	3,489	39.9
<i>Yorkshire, North Riding</i>			
Urban	5,665	3,307	58.3
Rural	1,784	78	4.3
Total	7,449	3,385	45.3
<i>Yorkshire, West Riding</i>			
Urban	27,145	14,084	51.9
Rural	7,062	2,348	33.2
Leeds	6,584	1,042	15.8
Sheffield	7,459	2,746	36.8
Total	48,250	20,220	41.9
<i>ENGLAND</i>			
Urban	392,512	250,573	63.8
Rural	94,391	13,311	14.1
Total	486,903	263,884	54.2

County Boroughs

Thirty-six county boroughs have nearly completed their reorganisation¹

Barnsley (80 3)	Great Yarmouth (82 4)
Barnoldswick-in-Furness (70 7)	Grimsby (74 3)
Bath (86 2)	Hastings (90 1)
Birkenhead (70 3)	Leicester (83 5)
Birmingham (79 1)	Lincoln (87 2)
Blackpool (83 0)	Northampton (87 2)
Bradford (69 9)	Norwich (81 4)
Brighton (88 0)	Nottingham (75 4)
Burton-on-Trent (77 7)	Portsmouth (74 5)
Coventry (69 5)	Reading (79 3)
Croydon (76 8)	Rotherham (71 7)
Darlington (81 0)	Southend-on-Sea (83 9)
Derby (71 2)	South Shields (71 0)
Doncaster (90 6)	Stoke-on-Trent (75 0)
Dudley (82 3)	Walsall (85 2)
Eastbourne (78 5)	West Bromwich (93 7)
East Ham (79 9)	Wolverhampton (97 7)
Gloucester (94 9)	York (95 4)

Six county boroughs, having more than 90 per cent, evidently admit senior pupils from adjoining rural areas. Twenty-two county boroughs provided for more than half of their pupils, and the remaining for more than 20 per cent. Only four county boroughs show less than 20 per cent. Burnley (5 0), Leeds (15 8), Salford (18 4) and Southport (18 1). Of the larger cities, Leeds alone is in this group, others have higher percentages. London (70 0), Birmingham (79 1), Liverpool (40 0), Manchester (37 6) and Sheffield (36 8).

Part III Authorities

Fifty-seven boroughs and seven urban districts have almost completed their schemes, twenty-two of them having more pupils in their post-primary schools than the corresponding age-groups of elementary schools. These are

Barking (94 6)	Kettering U C (102 2)
Bainstaple (94 2)	Lancaster (92 5)
Beckenham (95 2)	Leyton (90 2)
Bridgwater (94 7)	Luton (110 3)
Bridlington (115 8)	Maidstone (90 5)
Bury St Edmunds (96 4)	Mansfield (92 6)
Chesterfield (96 0)	Newbury (102 5)
Coseley U D (98 9)	Newcastle-under-Lyme (92 2)
Deal (100 0)	New Windsor (91 2)
Erith U D (95 9)	Salisbury (96 2)
Ilkeston (98 1)	Worthing (90 5)

¹ Only the seven authorities in italics have completed the reorganisation

Besides these authorities, eight others have completed reorganisation. Durham, East Retford, Ilford, Kingston-on-Thames, Rowley Regis, Wednesbury, Winchester and Workington.

Thirty-five authorities have provided for more than half of their pupils, twenty-three for more than 20 per cent and less than half, and the following eight authorities for less than 20 per cent.

Accrington (14.7)	Middleton (7.8)
Cannock U.D. (12.4)	Poole (3.3)
Haslingden (7.4)	Reigate (13.3)
Hemel Hempstead (1.8)	Swindon (14.3)

Twenty-five authorities had not yet started reorganisation in 1937 and have no senior departments (although some of them have senior divisions in all-age departments).

Aldershot	Hebburn
Banbury	Hyde
Beverley	Kidderminster
Bexhill	Lytham St. Anne
Boston	Mossley
Buxton	Newport
Chelmsford	Ossett
Chorley	Penzance
Chepping Wycombe	Sutton Coldfield
Dover	Tiverton
Faversham	Wood Green
Folkestone	Yeovil
Falmouth	

Differentiation between the Sexes

On the whole, the provision for girls is equal to that for boys, with slight local differences, either in favour of boys or girls. Only two boroughs, Poole and Harwich, have senior schools for boys and none for girls, and only one borough, Hereford, has a senior school for girls and none for boys. In county areas, urban Gloucestershire alone shows a marked difference between the sexes, whilst 55.5 per cent of boys are provided with senior schools, only 17.5 per cent of girls are likewise provided. We shall discuss the causes of all local variations separately.

Local Causes of Variation

(a) Rural Areas

From Table 1 we notice that in all counties the rural areas are considerably behind the urban districts in reorganisation. There are two causes which are common to all rural areas. The first is geographical, resulting from the topography of the country and the sparsity of rural population. As the Buckinghamshire report of 1935 points out, "In rural areas it is very difficult to collect enough children to form separate senior schools, and there are districts where no grouping is possible." In some places, as, for instance, in the Lake District, the long valleys are separated by lakes and mountain ridges and consolidation is possible only along the valleys.

However, modern transport facilities have opened up a field of new opportunities, and these difficulties might be surmounted in most rural areas if there were no other causes obstructing reorganisation.

(b) *Non-provided Schools*

The second cause, common to all rural areas, is the dual control of elementary education inherited from the past. The Buckinghamshire Report of 1935 states "A local education authority is liable to find itself hampered by the fact that some of the schools attended by children over 11 years of age are not directly under its control. It may desire, for example, to group the older children from several schools in a single senior school, but it may find that the voluntary schools which the children at present attend are reluctant to part with them." The county authority may be discouraged to erect a new school "by the fear that it cannot count with certainty upon the co-operation of the managers of the voluntary schools." The legal position is not quite clear. The Education Acts and Board's Circulars state that it is the duty of the local authority to reorganise schools. Section 34 of the Education Act, 1921, even states "Where there are two or more public elementary schools not provided by the local education authority of the same denominational character in the same locality, the local education authorities, if they consider that it is expedient for the purposes of educational efficiency and economy, may, with the approval of the Board of Education, give directions for the distribution of the children in those schools according to age, sex or attainments, and otherwise with respect to the organisation of the schools." On the other hand, as early as August 1928, Lord Eustace Percy, at that time President of the Board of Education, stated that neither the Board nor the local authorities "have any power to require transfer of any child from a Church school to a council school, before or after the age of 11." Also, "they have no power to require voluntary bodies to incur extra expenditure on reorganisation." As all reorganisation incurs extra expenditure, however small, it seems that Section 34 of the Education Act, 1921, can never be applied without the consent of the voluntary bodies, and thus in practice loses all its importance. After this statement it was clear that the only way for progress in reorganisation lay in consultation and agreement with the churches.¹ The attitude of the Church of England authorities was not uniform throughout the country. In many areas diocesan educational councils held conferences with county councils and concluded agreements. The resolution of the Joint Conference of the Oxford Diocesan Council with the Buckinghamshire Council can be given as an example. "Recognising that there is no educational advantage in retaining senior children in small all-age schools—(a) it is hoped that the Education Committee will make generous grants within the powers

¹ We may note, however, that during 1937 three proposals affecting seven non-provided schools were approved by the Board of Education under Section 34 of the Education Act, 1921.

permitted by new legislation towards the provision of new Church schools (b) The Diocesan Panel will do all in its power to persuade managers of Church of England schools to co-operate in agreed schemes of reorganisation." The agreed scheme in Buckinghamshire provides for 8 Church of England senior schools and 33 council senior schools. Even before the Act of 1936 was passed, such agreements were concluded in some counties. For instance, the advanced state of reorganisation of rural schools in Leicestershire and the West Riding of Yorkshire is the result of co-operation between the two parties. In Leicestershire, reorganisation was started as early as 1921, in the West Riding only in 1928, but has proceeded more rapidly than in other counties because of the agreement. The following table shows the progress of reorganisation in the West Riding

TABLE 2
PROGRESS OF REORGANISATION IN
THE WEST RIDING

YEAR	NO OF SCHEMES IN OPERATION	NO OF SCHOOLS INVOLVED		TOTAL
		COUNCIL	VOLUNTARY	
1929	1	8	—	8
1930	4	35	1	36
1931	17	40	1	41
1932	19	87	19	106
1933	26	108	33	141
1934	32	127	41	168
1935	38	146	47	193
1936	43	163	52	215
1937	52	195	68	263
APPROVED SCHEMES AWAITING THE OPENING OF NEW BUILDINGS				
	41	162	114	276
Total	93	357	182	539
Total schools	—	466	370	836

It is expected that by 1940 the whole county area will be reorganised. Similar agreements between the Church and the Council were put into operation in Shropshire, Northumberland, Leicestershire, Essex and some other places. However, in some areas, the Church authorities were not so willing to co-operate, and even obstructed the plans of reorganisation. As one of the Directors of Education stated: "We have been held up over our central schools plans by the fact that the voluntary school people refuse to come in or to work in what I think is a reasonable manner." In Gloucestershire, for instance, the Diocesan Council at first proposed to erect seven new senior church schools, but later the proposal was withdrawn, with the result that the whole scheme was jeopardised. On the whole, the attitude of the Church of England authorities, after

the provisions of the Education Act of 1936 recognised the grants for building purposes, became more favourable, and the policy of the Church now tends to limit its activities to junior schools and not to obstruct the transfer of senior children to council schools if the religious instruction is provided for on agreed terms. Nevertheless, in 1937 the Church of England had as many as 267 senior departments.

The attitude of the Roman Catholic authorities is more unpromising. In Manchester, the Roman Catholics declared that (1) They would not abandon the old traditional parochial system, (2) In no circumstances would any children be transferred from Roman Catholic schools to council schools, (3) Because the Roman Catholics must maintain the parochial system, they did not propose to send in schemes for the grouping of Roman Catholic schools. It would appear that the second principle of non-transference is a general policy of the Church, and up till now there is not a single case recorded of sending senior children to a council senior school. The principle of the parochial system, however, has been abandoned by Roman Catholics in several cases. Especially significant is the agreement between the Staffordshire County Council and the Roman Catholic authorities, concluded at the end of 1937. The authorities agreed that (1) All existing Roman Catholic schools within the county should become junior schools, (2) New senior Roman Catholic schools should be erected at Stafford, Dudley and Wednesbury, and would be attended by senior children of all surrounding Catholic schools. The County Council agreed to provide 75 per cent of the cost of the new buildings. In Lancaster Borough, Roman Catholics reorganised their own schools. There are indications that in other areas the principle of parochialism will soon be considerably modified. In 1937, the Roman Catholics had 90 senior departments.

It is not true to assume, however, that the Church authorities are alone responsible for the lack of co-operation in reorganisation schemes. In Liverpool, for example, the Council refused to subsidise any denominational senior schools and started reorganisation by disregarding the great number of Church of England and Roman Catholic schools. Thus about half of the Liverpool schools cannot be reorganised until the Council changes its present policy.

(c) *Other Local Causes*

Apart from the general causes discussed above, there are many conditions of local importance which either obstruct or further the progress of reorganisation. In some rural areas, Wiltshire for instance, there is a rivalry between the neighbouring villages for the site of a new senior school, and until the rural communities agree among themselves, the new school cannot be erected. In other rural areas there is an opposition to the sending of senior children to urban districts. In Essex, "it has been argued that to collect children of 11 plus from small villages and convey them to senior

schools in larger places may tend to give them the 'town mind' and result in diverting the most able and energetic from agricultural occupations." Then again, the view has been expressed that "to deprive village schools of all their older children, with the consequent probability of the substitution of a school mistress for a school master, may have adverse effects on the life of the village generally."

In urban areas and boroughs the building of new estates on the outskirts of great cities gave an opportunity to the authority for installing a reorganised system from the start. Thus the rapid progress of reorganisation in Birmingham and in Middlesex is largely due to this cause. In the case of Leeds, it seems, the Council objects to reorganisation on pedagogical grounds and very reluctantly follows the policy of the Board.

Conclusion

Thus it will be seen that variation in the progress of reorganisation depends on many local causes, which sometimes cannot even be clearly defined, since they are of a purely personal character. In one county, for instance, the progress of reorganisation depended on the enthusiasm of the Chairman of the Education Committee. After his retirement the whole work came to a standstill. In another county the uncompromising attitude of a representative of the Church defeated all approaches to an agreement. On the whole, however, the provisions of the Act of 1936 have removed the main obstacles, and perhaps the year 1937 was not a favourable date for such investigation. During 1938 the conclusion of many new agreements was expected and many new schemes put into operation. Assuming the continuation of present conditions, the work of reorganisation may be completed in the majority of areas by 1940.

N HANS

CHAPTER TWO

SECONDARY SCHOOLS

A REGIONAL DIFFERENCES

Introduction

THE Inquiry Schools Commission of 1867 discovered about 780 endowed grammar schools, of which about 130 dated from the pre-Reformation period (according to Leach) and about 300 were founded in the seventeenth century. According to the Commission's Report, only 535 grammar schools were actually open in England at that time. Besides the old grammar schools, there were many secondary schools, of more recent origin, founded by denominational societies, cities and private proprietors. Of this group, there is only accurate information about 93 schools. Thus, in 1867, England possessed 628 secondary schools, the distribution of which was the result of historical circumstances. The Royal Commission on Technical Instruction (1881-4) called the unequal distribution of endowed schools "the greatest defect of our educational system." When we study the following table we see that, whereas in London there was, in 1867, a population of 117,000 per one endowed secondary school, in Westmorland the number was only 7,000 per school. The new secondary schools slightly improved the position of London and other counties, but the unequal distribution of old schools was the first cause of later regional inequality in secondary education.

In making a comparative table by regions we have selected the years 1867, 1907 and 1937. The first year shows the distribution of endowed and other secondary schools as reported by the Inquiry Schools Commission in 1868. The second date, 1907, is just five years after the passing of the Education Act, 1902, and subsequent reorganisation of secondary education, and the last date is the most recent available. The columns for 1867 divide secondary schools into endowed and otherwise, the columns for the two later years divide schools into independent and State-aided. For 1907, the independent schools include only those which were later recognised as "efficient" by the Board of Education, for 1937, it included all "efficient" schools plus a few public or Roman Catholic schools which were represented on the Headmasters' Conference, but not included in List 60 of the Board. The last column for each year shows the ratio of population for one school (in thousands) and the figures in parenthesis for 1937 show this ratio for State-aided schools only. The last column shows the increase of population during the period 1867-1937. It should also be noted that in 1867 all endowed schools and 70 (out of 93) other schools were for boys. In 1907, the majority of new schools, whether independent or State-aided,

TABLE 3 —DEVELOPMENT OF SECONDARY SCHOOLS BY REGIONS

GEOGRAPHICAL COUNTIES	1867			1907			
	IN DOWLED SCHOOLS	GAULT SECOND ARY SCHOOLS	POPULA TION PER SCHOOL IN 1000 S	INDEX SECOND ARY SCHOOLS	STATE AIDED		POPULA TION PER SCHOOL IN 1000 S
(1)	(2)	(3)	(4)	(5)	DIRECT GRANT	COUNCIL	(8)
Bedfordshire	3	—	15	2	2	1	36
Bedshire	6	1	25	8	6	3	16
Buckinghamshire	5	—	34	2	6	1	23
Cambridgeshire	5	—	35	1	4	5	19
Cheshire	17	1	28	2	13	12	34
Cornwall	5	2	54	—	5	5	33
Cumberland	8	1	23	3	5	2	27
Derbyshire	10	1	31	1	7	6	46
Devonshire	17	3	29	2	19	1	31
Dorsetshire	8	—	24	1	8	1	21
Durham	8	—	61	2	10	9	61
Essex	14	2	25	1	12	14	41
Gloucestershire	15	3	27	6	20	4	24
Hampshire	11	1	40	2	14	10	34
Hertfordshire	5	1	21	4	1	—	23
Hertfordshire	11	1	15	2	12	—	21
Huntingdonshire	3	—	21	—	3	—	18
Kent	15	1	34	4	17	12	31
Lancashire	48	13	41	10	41	35	54
Leicestershire	10	—	24	1	12	2	31
Lincolnshire	28	—	15	8	16	2	20
London	24	18	67	22	68	17	43
Middlesex	6	5	12	4	8	10	44
Norfolk	14	1	29	7	7	3	28
Northamptonshire	14	—	16	8	5	1	27
Northumberland	8	5	26	3	9	3	45
Nottinghamshire	5	—	59	—	7	4	52
Oxfordshire	8	—	21	3	6	—	22
Rutland	2	—	11	1	1	—	10
Shropshire	11	—	23	1	7	3	22
Somerset	10	7	26	5	15	3	19
Staffordshire	20	3	32	2	18	5	52
Suffolk	20	—	17	12	4	5	18
Surrey	7	1	32	4	14	11	26
Sussex	12	3	24	5	5	4	50
Warwickshire	19	2	27	9	11	6	38
Westmorland	9	—	7	4	5	—	7
Wiltshire	8	—	31	2	7	5	20
Worcestershire	13	1	21	8	6	5	27
Yorkshire East	10	3	22	3	6	4	36
Yorkshire North	15	1	15	5	8	2	27
Yorkshire West	50	12	27	7	37	39	35
England	535	93	30	180	490	255	14

TABLE 3—*continued*

GEOGRAPHICAL COUNTIES	INDEPENDENT EFFICIENT SCHOOLS	1917		POPULATION PER SCHOOL IN 1900'S	POPULATION IN 1937 AS PERCENT AGE TO 1882
		STATE-AIDED			
		DIRECT GRANTS	COUNCIL		
(1)	(2)	(3)	(4)	(5)	(6)
Bedfordshire	1	5	3	25 (28)	162
Berkshire	16	4	10	11 (23)	177
Buckinghamshire	6	—	9	20 (32)	161
Cambridgeshire	3	2	8	17 (23)	124
Cheshire	4	13	27	25 (28)	215
Cornwall	3	2	21	12 (14)	86
Cumberland	4	—	12	16 (22)	128
Derbyshire	7	1	22	26 (34)	223
Devonshire	10	10	30	15 (19)	125
Dorsetshire	9	—	15	10 (16)	126
Durham	4	7	29	40 (42)	292
Essex	11	7	37	36 (44)	433
Gloucestershire	10	10	27	17 (22)	162
Hampshire	17	5	27	24 (36)	228
Herefordshire	—	1	8	12	90
Hertfordshire	19	4	13	12 (26)	232
Huntingdonshire	1	—	4	11 (14)	89
Kent	30	7	39	17 (28)	223
Lancashire	13	50	88	31 (38)	207
Leicestershire	—	2	19	25	229
Lincolnshire	1	—	34	18 (19)	151
London	22	11	79	40 (49)	157
Middlesex	23	4	49	24 (34)	925
Norfolk	3	5	13	24 (28)	116
Northamptonshire	2	3	12	22 (24)	159
Northumberland	2	7	19	27 (29)	224
Nottinghamshire	1	2	15	42 (44)	242
Oxfordshire	5	2	10	13 (18)	122
Rutland	1	1	—	8 (17)	80
Shropshire	5	1	17	11 (14)	101
Somerset	16	4	21	12 (19)	107
Staffordshire	5	7	27	38 (44)	191
Suffolk	3	5	16	18 (19)	107
Surrey	27	12	36	17 (27)	480
Sussex	46	2	21	11 (34)	211
Warwickshire	10	2	38	33 (41)	273
Westmorland	2	—	8	7 (8)	107
Wiltshire	4	1	13	17 (22)	122
Worcestershire	11	2	14	16 (27)	137
Yorkshire East	5	7	11	25 (32)	203
Yorkshire North	6	4	18	17 (22)	191
Yorkshire West	11	17	93	29 (33)	223
England	379	241	1,012	23 (31)	204

were either mixed schools or schools for girls, and even some of the old endowed schools were diverted for the education of girls by the Charity Commission. In 1937, the number of girls' schools even exceeded that of boys' schools. The subsequent status of endowed

schools underwent a gradual change. In 1907, out of the original 535, only about 90 remained independent and about 30 were taken over by local authorities, about 20 fell in abeyance, but many others were reopened and the rest were receiving direct grants from the Board. In 1937, the majority of them were taken over by the local authorities as indirect-grant schools.

Comparison by Geographical Counties

Comparing the geographical counties we must divide them into three groups according to the relative increase of population during 1867-1937. In four counties (Cornwall, Herefordshire, Huntingdonshire and Rutland) the population decreased, and in four other counties (Shropshire, Somerset, Suffolk and Westmorland) it remained stationary. With the exception of Cornwall, these counties were well supplied with old endowed schools, and it needed little effort on the part of local authorities to supplement the existing provision by opening a few girls' schools or converting the old boys' schools into mixed schools. Suffolk, Rutland and Westmorland did not build any new schools at all, whilst another four counties added about 20 schools to the 29 inherited from the past. Cornwall alone in this group had an insufficient number of old schools, but the decreasing population greatly eased the task of local authorities. The second group of counties has increased its population from 1.16 (Norfolk) to 1.77 (Berkshire) per cent. On the whole, this group was well supplied with old schools and the local authorities had only to add 107 new (usually girls') schools to the 135 old schools to maintain the ratio of population per school. Quite different was the position of the third group, where the population has been doubled or increased even more. Here the local authorities had to exert themselves in order to supply schools for the rapidly growing population. Especially hard was the case of industrial centres like Durham, London, Nottinghamshire and Lancashire, which had few old schools in their areas. These four counties had only 83 endowed schools, and even the erection of 190 new schools by the local authorities could not bring them to the same level as the more fortunate counties. Essex, Staffordshire and Warwickshire were originally well supplied with endowed schools, but the rapid growth of population soon outdistanced the efforts of local authorities. If we take into consideration the fact that Durham, Nottinghamshire and Staffordshire are among the poorest counties in England, we see at once that the uneven distribution of old endowed schools was one of the main causes of later uneven distribution.

The Present Provision by Regions

To calculate the percentage of boys and girls receiving an opportunity for secondary education is not easy. We have to separate the independent schools from the grant-aided schools as they cater for different groups of population. In the grant-aided secondary schools, we have to distinguish the ex-elementary pupils from pupils

of other schools (usually independent), and among the ex-elementary pupils we have again to distinguish the free-placers from those paying partial or full fees. The correct method would be to follow an age-group, starting with 9 years up to 14 years, and calculate all those who were admitted to secondary schools. With the available statistical data it is hardly possible, and the Board of Education has adopted the ratio of all newly admitted pupils in secondary schools to the age-group 10-11 in the previous year in elementary schools. This ratio is very near the correct percentage, and certainly is nearer to the right figure than the ratio of leavers for secondary schools to the total number of leavers. The second method gives figures 20 per cent. lower than the first, because total leavers are always a larger figure than an age-group. Both these methods used by the Board, however, calculate the ratio of ex-elementary pupils alone and cannot be applied for other groups of pupils who attended independent schools.

In our tables we must attempt to calculate three different ratios: firstly, the percentage of ex-elementary pupils receiving secondary education; secondly, the ratio of pupils of private schools (or educated at home) receiving education at State-aided secondary schools, and thirdly the ratio of all children receiving secondary education. It must be remembered that regional figures are slightly distorted by migration and non-local secondary schools. To eliminate these factors, the Board calculates the pupils by residence before entering secondary schools and thus arrives at the correct ratio of ex-elementary pupils of a given area who entered secondary schools both within and outside of the area. This method can be applied only to ex-elementary school pupils, and as we wish to include all pupils, we have adopted a regional method which seldom varies in percentages from the first. We shall mention later those few cases where the difference between the two methods is considerable.

Notes on Table 4

The table presents figures for geographical counties, including all local education authorities within the area, and distinguishing the sexes. Column 2 gives the population of the area of the age-group 10-11 in 1936. This figure was calculated from the age-group 5-6 years in 1931 by deducting the percentage of mortality during the five years. The migration from county to county could not be calculated, and, therefore, in two counties (Bedfordshire and Yorkshire) we have more elementary pupils than population. Columns 3 and 4 give the number of pupils of 10-11 age-group in elementary and special schools. Column 5 gives the statistical difference between the population and pupils. In the two counties mentioned above, the difference is negative showing the pupils from other areas attending elementary or special schools of these counties. Columns 6 and 7 give the number of all admissions to grant-aided secondary schools in 1936-7. Column 8 gives an approximate figure for pupils of 11-12 years in efficient non-aided schools.

TABLE 4—SECONDARY EDUCATION IN 1937 BY REGIONS

GEOGRAPHICAL COUNTRIES	POPULATION 10-11 YEARS IN 1936	PUPILS OF 10-11 YEARS IN 1936			DIFFERENCE BETWEEN 2 AND 3 AND 4	NEW ADMISSION TO GRANT AIDED SECONDARY SCHOOLS IN 1937			PUPILS OF 11-12 YEARS IN EFFICIENT SCHOOLS			PERCENTAGES OF		
		IN PUBLIC ELEMENTARY SCHOOLS	IN SPECIAL SCHOOLS	(4)		IN ELEMEN- TARY SCHOOLS	OTHER SCHOOLS	(7)	(8)	(9)	(10)	6 TO 7 TO 8	7 TO 8 TO 9	8 TO 9 TO 10
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<i>Bedfordshire</i>														
Boys	1,609	1,629	—	—	-20	232	168		—	14.2				25.0
Girls	1,510	1,531	—	—	-21	158	139		12	10.4				20.4
Total	3,119	3,160	—	—	-41	390	307		12	12.3				22.7
<i>Berkshire</i>														
Boys	2,278	2,063	19	19	196	227	143		88	11.0				20.1
Girls	2,264	2,008	13	13	243	181	87		166	9.0				19.2
Total	4,542	4,071	32	32	439	408	230		254	10.0				19.7
<i>Buckinghamshire</i>														
Boys	1,969	1,810	9	9	150	253	52		—	14.0				15.5
Girls	1,937	1,768	2	2	167	222	35		80	12.6				17.4
Total	3,906	3,578	11	11	317	475	87		80	13.3				16.4
<i>Cambridgeshire and Huntingdonshire</i>														
Boys	2,107	1,988	14	14	105	316	113		51	16.0				22.8
Girls	1,973	1,812	4	4	157	231	122		24	12.8				19.1
Total	4,080	3,800	18	18	262	547	235		75	14.4				21.0
<i>Cheshire</i>														
Boys	8,146	7,540	70	70	536	1,133	334		24	15.0				18.3
Girls	7,957	7,227	39	39	691	972	434		23	13.4				17.9
Total	16,103	14,767	109	109	1,227	2,105	768		46	14.2				18.1
<i>Cornwall</i>														
Boys	2,405	2,175	—	—	230	368	79		11	16.9				19.1
Girls	2,185	1,990	—	—	225	267	88		26	13.9				17.4
Total	4,590	4,135	—	—	455	635	167		37	15.3				18.3
<i>Cumberland</i>														
Boys	2,257	2,077	5	5	175	298	40		25	14.3				16.1
Girls	2,295	2,168	6	6	131	312	52		23	14.4				16.8
Total	4,552	4,245	11	11	296	610	92		48	14.4				16.5

TABLE 4—continued

GEOGRAPHICAL COUNTRIES	(1)	POPULATION, 10-11 YEARS IN 1936		PUPILS OF 10-11 YEARS IN 1936		DIFFERENCE BETWEEN 2 AND 3 + 4		NEW ADMISSION TO GRANTS IN 1936-7			PUPILS OF 11-12 YEARS EFFICIENT IN SCHOOLS		PERCENTAGES OF		
		(2)	(3)	(4)	(5)	(6)	(7)	BY EXISTING SCHOOLS	OTHER SCHOOLS	(8)	(9)	(10)	7 TO 9	9 TO 11	11 TO 13
<i>Derbyshire</i>															
Boys		6,490	6,105	18		367	95	754		36	12.3	25.9		13.6	
Girls		6,277	6,035	15		227	65	578		38	9.5	28.6		12.4	
Total		12,767	12,140	33		594	160	1,332		75	11.0	26.9		13.1	
<i>Devonshire</i>															
Boys		5,180	4,533	82		565	368	789		65	17.4	65.1		23.6	
Girls		5,090	4,371	52		667	243	623		110	14.3	36.4		19.2	
Total		10,270	8,904	134		1,232	611	1,412		175	15.4	49.6		21.2	
<i>Dorsetshire</i>															
Boys		1,837	1,604	10		223	107	307		114	19.2	48.0		28.7	
Girls		1,761	1,535	12		214	50	244		81	15.9	23.4		21.3	
Total		3,598	3,139	22		437	157	351		195	17.6	35.7		25.1	
<i>Durham</i>															
Boys		14,948	14,025	79		844	34	1,342		20	9.6	4.0		9.3	
Girls		14,589	13,873	58		655	58	1,306		61	9.4	8.9		9.8	
Total		29,537	27,898	137		1,502	92	2,648		81	9.5	6.1		9.5	
<i>Essex</i>															
Boys		15,023	14,077	184		762	302	1,522		140	10.7	39.6		13.1	
Girls		14,427	13,645	95		687	389	1,533		80	11.5	56.4		14.2	
Total		29,450	27,722	279		1,449	691	3,105		220	11.1	47.7		13.7	
<i>Gloucestershire</i>															
Boys		6,054	5,712	63		279	203	1,085		89	18.9	72.8		22.8	
Girls		5,925	5,517	32		376	291	775		76	14.5	77.4		19.2	
Total		11,979	11,229	95		655	494	1,860		165	16.7	75.4		21.0	
<i>Hampshire</i>															
Boys		8,326	7,344	33		949	269	996		74	13.3	28.3		15.9	
Girls		8,121	7,190	48		810	281	810		191	11.3	31.8		15.0	
Total		16,447	14,534	81		1,863	550	1,806		265	12.3	30.0		15.5	
<i>Hertfordshire</i>															
Boys		963	863	—		100	39	144		—	16.7	39.0		19.0	
Girls		854	919	—		35	40	111		—	12.1	114.3		15.8	
Total		1,917	1,782	—		135	79	255		—	14.4	58.3		17.4	

Hertfordshire

Boys	2,876	2,617	12	247	326	295	140	12.4	119.4	26.1
Girls	2,795	2,613	11	271	256	191	236	10.2	70.5	24.4
Total	5,671	5,130	23	518	582	486	376	11.3	93.8	25.3
<i>Kent</i>										
Boys	9,404	8,835	64	505	1,287	533	203	14.6	105.5	21.5
Girls	9,082	8,483	36	504	946	469	300	11.7	93.1	19.4
Total	18,486	17,318	169	1,009	2,283	1,002	303	13.2	100.0	20.5
<i>Lancashire</i>										
Boys	38,868	36,566	503	1,799	5,075	341	104	13.9	19.0	14.2
Girls	38,717	36,312	385	2,020	4,371	871	102	12.0	43.1	13.8
Total	77,585	72,878	888	3,819	9,446	1,212	206	13.0	31.7	14.0
<i>Leicestershire</i>										
Boys	4,080	3,804	33	243	564	117	—	14.8	48.1	16.7
Girls	4,058	3,756	25	277	497	154	—	13.3	56.0	16.0
Total	8,138	7,560	58	520	1,061	271	—	14.1	52.1	16.4
<i>Lincolnshire and Rutland</i>										
Boys	5,408	4,991	8	409	760	205	—	15.2	50.1	17.8
Girls	5,293	4,966	7	320	616	185	8	12.4	57.8	15.3
Total	10,701	9,957	15	729	1,376	390	8	13.8	53.6	16.6
<i>London</i>										
Boys	30,369	25,314	896	4,159	2,914	845	300	11.5	20.3	13.4
Girls	29,910	25,027	655	4,228	2,803	1,100	315	11.2	26.0	14.1
Total	60,279	50,341	1,551	8,387	5,717	1,945	615	11.4	23.2	13.8
<i>Middlesex</i>										
Boys	12,017	11,884	78	55	2,119	236	207	17.9	429.1	21.3
Girls	11,602	11,302	59	241	1,977	511	302	17.5	212.8	24.0
Total	23,619	23,186	137	296	4,096	747	509	17.7	248.9	22.7
<i>Norfolk</i>										
Boys	3,899	3,689	39	171	397	66	29	10.8	38.6	12.6
Girls	3,764	3,501	24	269	378	141	8	10.8	52.4	13.9
Total	7,663	7,190	63	440	775	207	37	10.8	47.0	13.2
<i>Northamptonshire</i>										
Boys	2,650	2,549	16	94	324	77	49	12.7	82.0	16.9
Girls	2,520	2,397	11	112	324	116	—	13.5	103.6	17.5
Total	5,179	4,946	27	206	648	193	49	13.2	93.7	17.2
<i>Northumberland</i>										
Boys	6,950	6,659	59	232	856	110	21	12.9	47.4	14.2
Girls	6,620	6,365	67	188	692	74	43	10.9	39.4	12.1
Total	13,570	13,024	126	420	1,548	184	64	11.9	43.8	13.2

TABLE 4—continued

GEOGRAPHICAL COUNTIES	POPULATION 10-11 YEARS IN 1906	PUPILS OF 10-11 YEARS IN 1936			DIFFERENCE 2 AND 3 + 4		NEW ADMISSION TO GRANT AIDED SECONDARY SCHOOLS IN 1936-7			PERCENTAGE OF		
		IN PUBLIC ELEMENTARY SCHOOLS	IN SPECIAL SCHOOLS	(4)	(5)	(6)	EX- TRA TERTIARY SCHOOLS	OTHER SCHOOLS	PUPILS OF 11-12 YEARS IN GRANT AIDED SCHOOLS	6 TO 9	7 TO 9	6 + 7 + 8 TO 9
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
<i>Nottinghamshire</i>												
Boys	5,868	5,671	108	89	625	118	—	—	110	134.8	12.6	
Girls	5,940	5,678	71	192	479	136	—	—	84	70.9	10.3	
Total	11,808	11,348	179	281	1,104	254	—	—	97	90.4	11.5	
<i>Oxfordshire</i>												
Boys	1,597	1,479	15	103	230	66	16	16	15.5	64.1	19.5	
Girls	1,482	1,377	18	87	163	62	49	49	11.9	71.3	18.5	
Total	3,079	2,856	33	190	393	128	65	65	13.7	67.4	19.0	
<i>Shropshire</i>												
Boys	2,062	1,895	5	162	297	64	—	—	16.2	38.5	17.5	
Girls	2,021	1,784	6	231	296	94	21	21	16.6	40.7	20.3	
Total	4,083	3,679	11	393	593	158	21	21	16.4	40.2	19.0	
<i>Somerset</i>												
Boys	3,269	2,946	18	305	511	178	90	90	17.4	58.4	23.8	
Girls	3,305	2,961	13	331	382	143	83	83	12.9	43.2	18.4	
Total	6,574	5,907	31	636	893	261	173	173	15.1	44.2	20.5	
<i>Staffordshire</i>												
Boys	12,525	12,024	74	427	984	170	48	48	8.2	40.0	9.6	
Girls	12,654	11,916	47	691	838	163	19	19	7.4	23.6	8.1	
Total	25,179	23,940	121	1,118	1,822	333	67	67	7.6	29.8	8.8	
<i>Suffolk</i>												
Boys	3,101	2,870	24	207	363	200	—	—	12.5	96.6	18.2	
Girls	2,977	2,721	15	241	259	76	64	64	9.5	31.5	13.4	
Total	6,078	5,591	39	448	622	276	64	64	11.0	61.6	15.8	
<i>Surrey</i>												
Boys	8,132	7,311	68	553	1,010	697	120	120	13.4	126.2	22.5	
Girls	7,836	7,075	41	790	838	863	437	437	11.9	120.0	25.9	
Total	15,968	14,586	109	1,273	1,848	1,560	453	453	12.6	122.5	24.1	
<i>Sussex</i>												
Boys	5,060	4,315	71	674	602	280	107	107	14.0	41.5	19.5	
Girls	4,999	4,155	52	702	399	296	455	455	9.6	42.1	23.0	
Total	10,059	8,470	123	1,376	1,001	576	562	562	11.8	41.8	21.4	

<i>Warwickshire</i>					
Boys	12,217	11,622	232	463	1,493
Girls	12,101	11,507	207	387	1,169
Total	24,318	23,029	436	850	2,662
<i>Westmorland</i>					
Boys	483	425	1	57	86
Girls	471	435	1	36	69
Total	954	860	2	93	155
<i>Wiltshire</i>					
Boys	2,324	2,048	1	275	351
Girls	2,230	1,922	1	307	343
Total	4,554	3,970	2	582	694
<i>Worcestershire</i>					
Boys	3,400	3,247	32	121	464
Girls	3,396	3,241	16	139	337
Total	6,796	6,488	48	260	801
<i>Yorkshire East and North</i>					
Boys	8,322	8,320	69	-67	1,137
Girls	8,224	8,224	86	-86	988
Total	16,546	16,544	155	-153	2,125
<i>Yorkshire West</i>					
Boys	27,347	25,250	296	1,801	4,325
Girls	26,572	24,677	281	1,914	3,897
Total	54,219	49,927	577	3,715	8,222
<i>England</i>					
Boys	291,828	270,056	3,308	18,464	36,866
Girls	286,180	263,753	2,569	19,868	31,742
Total	578,008	533,809	5,877	38,332	66,608

We have separated the well-known non-local schools ('33 boys' and 7 girls') from regional tables, but the 1,912 boys and 318 girls are added to England's totals of efficient schools. The 10 public schools not in List 60, with about 500 boys of this age, are not included.

TABLE 5—COMPARISON OF SECONDARY EDUCATION BY TYPE OF AREA

GEOGRAPHICAL COUNTIES	PERCENTAGE OF RURAL POPULATION	MALES OVER 14 OCCUPIED, IN PERCENTAGES			POPULATION 1911		PERCENTAGES OF		PRODUCT OF 10 RATE PER HEAD OF POPULATION	
		INDUSTRY	AGRICULTURE	NO OCCUPATION	IN PERCENT AGE TO 1887	PER 1 ENDOWED IN SCHOOL IN 1887	EX-ELIXIA TARY PUPILS IN GRANT AIDED SCHOOLS	TOTAL AGE GROUP IN EFFICIENT SECONDARY SCHOOLS		
1. <i>Industrial Areas</i>	40	52	7	9	223	76	11 0	13 1	d	47
Derbyshire	28	54	3	9	292	183	9 5	9 5	38	38
Durham	4	39	3	9	229	109	13 0	14 0	61	61
Lancashire	24	50	8	7	242	142	9 7	11 5	53	53
Nottinghamshire	33	45	6	9	224	93	11 9	13 2	61	61
Northumberland	10	51	5	7	191	71	7 6	8 8	41	41
Staffordshire	9	48	4	8	273	81	11 6	13 9	63	63
Warwickshire	15	49	4	8	223	69	16 5	17 3	53	53
Yorkshire West R										
2. <i>Agricultural Areas</i>										
Dorsetshire	39	22	22	14	126	30	17 6	25 1	66	66
Cambridgeshire and Huntingdonshire										
Cornwall	52	15	36	18	118	34	14 4	21 0	48	48
Herefordshire	47	28	25	16	86	63	15 3	18 3	40	40
Herefordshire	62	19	41	14	90	22	14 4	17 4	48	48
Norfolk	54	24	30	12	116	36	10 8	13 2	40	40
Suffolk	47	23	30	15	107	20	11 0	15 8	46	46
Shropshire	48	29	28	11	101	22	16 4	19 0	43	43
Somerset	49	30	22	14	107	47	15 1	20 5	61	61
Westmorland	54	30	30	12	107	7	18 0	22 6	58	58
Wiltshire	47	29	21	11	122	35	17 4	19 3	48	48
3. <i>Metropolitan Area</i>										
Berkshire	42	24	16	14	177	52	10 0	19 7	70	70
Buckinghamshire	51	32	16	11	161	54	13 3	16 4	68	68
Essex	10	25	7	11	433	125	11 1	13 7	67	67
Hertfordshire	25	25	15	13	232	36	11 3	25 3	83	83
Kent	23	23	13	13	223	81	13 2	20 5	80	80
London	—	26	1	9	157	183	11 4	13 8	133	133
Middlesex	—	27	3	10	925	273	17 7	22 7	104	104
Surrey	9	24	8	14	480	169	12 6	24 1	110	110

Column 9 gives the percentage of all ex-elementary pupils in secondary grant-aided schools to the total number of an age-group in elementary schools of the area. Column 10 is a statistical indication, correct only for England as a whole, of the percentage of ex-private school pupils admitted to grant-aided schools. The last column gives the percentage of all pupils in secondary schools to the population of an age-group. The well-known non-local schools were eliminated from regional figures and added to the totals for England, but as many other secondary schools have also non-local pupils, in some cases we have the percentages higher than 100, which shows that pupils from other areas attend secondary schools of these counties. The average figures for England are 12.8 per cent of ex-elementary pupils attending grant-aided secondary schools, 45.6 per cent of ex-private school pupils attending grant-aided schools and 16.4 per cent of population of an age-group attending all recognised efficient secondary schools. The regional figures vary greatly from the average and need a separate description. We shall select three groups of areas for comparison: industrial, rural and metropolitan.

Comparison by Types of Areas (Table 5)

(a) *Industrial Areas*

We have selected eight counties to represent industrial areas. Common features: (a) insignificant percentage occupied in agriculture, (b) small percentage of people with no occupation, (c) rapid increase of population during the period 1867-1931 and, as a result, (d) insufficient number of old endowed schools. With the sole exception of the West Riding, the percentages of ex-elementary pupils and of all children attending secondary schools are the lowest in the country. The two poorest counties, Durham and Staffordshire, have the lowest percentages in the country. Nottingham has the next lowest percentages, which is largely due to the small number of old endowed schools. The West Riding has exceptionally high percentages for the group, partly because it was better provided with endowed schools and partly due to the tradition of the county, which was always "educationally-minded".

(b) *Agricultural Areas*

Common features: (a) a high percentage of rural population, occupied in agriculture and (b) a considerable percentage of people with no occupation, (c) population almost stationary or even decreasing (Cornwall and Hereford), (d) with the exception of Cornwall, all areas were well supplied with old endowed schools so that very few new schools were needed to put these areas well above the average for England. The two eastern counties of Norfolk and Suffolk are exceptions in this group by their low percentages, which is due, evidently, to local causes. The richest county in the group, Dorsetshire, has the highest percentages, and the poorest, Norfolk, the lowest; Cornwall is an exception.

(c) *Metropolitan Areas*

The population of this area is not so homogeneous as in other parts since it depends largely on London for its work. More than half are occupied in commerce, finance and the professions, and only spend their nights outside London. It is the richest area in the country, but it was insufficiently supplied with old endowed schools, with the sole exception of Hertfordshire. On the whole, it occupies an intermediate position between the two first areas.

(d) *Large Cities, Urban and Rural Areas (Table 6)*

Taken as a group, the cities, urban and rural areas show great variation within each group, but on the whole the cities have the lowest percentage and the urban areas (including Part III authorities) the highest. All great cities are independent county boroughs and include among their school population a considerable percentage from surrounding county areas. To compare, therefore, county boroughs with county areas, we have to take the figures of residence of pupils' parents and not by pupils as we have done in regional tables. We have such data only for ex-elementary pupils, calculated by the Board of Education. We give here the data for the twenty largest cities (more than 175,000 population), including London, by residence of parents or guardians.

We thus see that only five of the twenty largest cities—Bradford,

TABLE 6—COMPARISON OF SECONDARY
EDUCATION BY SELECTED CITIES

CITIES	NO. OF PUPILS 10-11 YEARS IN ELEMENTARY SCHOOLS IN 1930	NO. OF EX-ELEMENTARY PUPILS ADMITTED TO GRANT MAINT. SECONDARY SCHOOLS	PERCENTAGE
Birmingham	15,204	1,800	11.8
Bradford	3,985	1,053	26.4
Bristol	5,073	775	13.7
Croydon	2,890	333	11.5
Kingston-upon-Hull	5,341	555	10.4
Leeds	6,569	893	13.6
Leicester	3,540	429	12.1
Liverpool	15,004	1,410	9.4
London	50,341	5,130	10.2
Manchester	10,968	1,439	13.1
Newcastle-upon-Tyne	4,951	729	14.1
Nottingham	4,033	396	9.8
Plymouth	2,650	520	19.6
Portsmouth	3,663	564	15.8
Salford	3,316	215	6.5
Sheffield	7,329	1,447	19.7
Southampton	2,073	387	14.5
Stoke-on-Trent	4,825	383	8.0
Sunderland	3,429	226	6.6
West Ham	4,612	351	7.6

Portsmouth, Sheffield, Plymouth and Southampton—have high percentages which are above the percentages of their geographical counties. The very high percentages of Bradford, Plymouth and Sheffield are explained by the policy of special places which grant about 90 per cent of all ex-elementary pupils a free or a special place.

County areas, both urban and rural, are under the same authorities, and secondary schools situated in urban centres cater also for pupils from rural districts. Again, for comparison, we have to take the figures by residence. In Bedfordshire, Berkshire, Isle of Ely, Cheshire, Cumberland, Derbyshire, Dorsetshire, Durham, Essex, Gloucestershire, Hampshire, Lancashire, Leicestershire, Northamptonshire, Soke of Peterborough, Northumberland, Nottinghamshire, Rutland, Staffordshire, Westmorland, Worcestershire and Yorkshire North, the rural areas show a greater percentage than the urban areas without county boroughs. In the remaining twenty-one county authorities, on the other hand, the urban areas show a greater percentage. As far as any conclusion can be drawn from the data, it seems that it depends on the character of urban areas. In industrial urban areas the percentage is lower than in rural areas, in suburban districts, higher. Such great cities as London, Birmingham, Liverpool, Kingston-upon-Hull, Leicester, Stoke-on-Trent and West Ham have lower percentages than the average for all rural areas in England. But such a typically suburban county as Middlesex is surpassed only by one rural area—that of Gloucestershire.

(e) *Nine Geographical Regions (Table 7)*

We take the official division of England into nine regions. North 1 (Durham and Northumberland), North 2 (Cumberland, Westmor-

TABLE 7—COMPARISON OF SECONDARY EDUCATION BY REGIONS

In percentages calculated from tables

REGIONS	PERCENTAGE ADMITTED TO GRANT AIDED SCHOOLS				PERCENTAGE OF AGL GROUP IN EFFICIENT SECONDARY SCHOOLS	
	EX-ELEMENTARY		EX-PRIVATE SCHOOLS		BOYS	GIRLS
	BOYS	GIRLS	BOYS	GIRLS		
North 1	10.6	9.9	13.4	15.6	10.9	10.6
North 2	14.1	12.7	202.6	407.0	17.3	15.1
North 3	17.1	16.0	23.6	26.5	17.9	16.8
North 4	14.1	12.3	28.9	48.1	14.9	14.5
Midlands W	12.7	10.1	60.4	49.0	16.2	13.5
Midlands E	12.4	10.5	51.3	57.6	15.1	12.8
East	13.6	11.4	65.5	53.1	17.5	15.1
South-East	13.1	12.1	48.8	51.7	18.3	18.1
South-West	17.5	14.6	58.1	32.7	24.4	19.4

TABLE 8—COMPARISON OF SECONDARY EDUCATION BY OCCUPATIONS OF FATHERS

OCCUPATIONS OF FATHERS	1909		1913		1921		1926		PERCENTAGE TO 1909
	NO OF PUPILS	PERCENTAGE	NO OF PUPILS	PERCENTAGE	NO OF PUPILS	PERCENTAGE	NO OF PUPILS	PERCENTAGE	
Professions	28,225	15.2	33,110	15.3	56,393	14.1	63,862	14.7	226
Wholesale traders	16,201	8.8	17,173	7.9	29,492	7.4	25,351	5.9	135
Farmers	7,957	4.3	9,524	4.3	18,228	4.6	16,624	3.9	209
Retail traders	28,733	15.4	33,080	15.3	58,402	14.6	57,235	13.2	200
Salaried	34,418	18.5	41,639	19.2	85,153	21.4	94,487	21.8	275
Wage-earners	31,113	16.7	36,693	16.9	83,883	21.1	98,424	22.7	317
No occupation given	4,037	2.1	3,474	1.6	5,215	1.3	4,500	1.0	111
Total grant-aided	150,794	81.0	174,423	80.5	336,836	84.5	360,503	83.2	239
Not aided, List 80	15,464	8.3	22,138	10.2	41,644	10.5	57,260	13.2	370
In other efficient secondary schools	20,000	10.7	20,000	9.3	20,000	5.0	15,000	3.6	75
Total for England and Wales	186,258	100	216,561	100	398,480	100	432,763	100	233

land, Yorkshire East and North Riding), North 3 (Yorkshire West Riding), North 4 (Cheshire and Lancashire), Midlands West (Gloucestershire, Herefordshire, Shropshire, Staffordshire, Warwickshire and Worcestershire), Midlands East (Derbyshire, Leicestershire, Northamptonshire, Nottinghamshire), East (Cambridgeshire, Huntingdonshire, Lincolnshire, Norfolk, Rutland and Suffolk), South-East (Bedfordshire, Berkshire, Buckinghamshire, Essex, Hampshire, Hertfordshire, Kent, London, Middlesex, Oxfordshire, Surrey and Sussex) and South-West (Cornwall, Devonshire, Dorsetshire, Somerset, Wiltshire). Although there are great variations within the regions, their percentages show regional features.

The percentages for ex-private school pupils in North 2 are evidently distorted by migration from other regions, presumably from North 1 and North 3. The highest percentages are shown by South-West, a predominantly agricultural region, followed by North 3 (West Riding), which is an industrial region. The lowest percentages are in North 1, an industrial region, followed by Midlands East, also an industrial region. These figures confirm those given for the three selected groups.

Conclusion

The regional variation, in the provision of secondary education, is the result of the following causes: (1) the historical uneven distribution of endowed schools, which formed the basis of the secondary school system, (2) the different rate of growth of population which is closely connected with the industrial or agricultural character of the region, (3) the "ability" of the population, i.e. the income per head, and (4) the policy of the central Government, which we shall discuss later in a separate chapter.

B SOCIAL DIFFERENCES

Method of Classification

We shall avoid the division into upper, middle and lower classes, so popular in the nineteenth century. The changed social and political conditions have made those terms obsolete and difficult to define. Much better are the occupational divisions adopted by the census statistics. According to occupation, the male population may be divided into six main groups: (a) professional, (b) employers and wholesale traders, (c) farmers, (d) independent craftsmen and retail traders, (e) salaried group and (f) wage-earners. In this classification, however, quite a considerable number of wage-earners often have a larger income than the average members of the salaried group or even of some professional men or independent workers. For our purposes it would be better to divide the parents into the three following groups: (1) parents who send their children to private and preparatory schools before they reach the age of 12

years, (2) parents who, after transferring their children from public elementary schools to grant-aided secondary schools, pay fees and (3) those who pay no fees because their income is below the limit. Before discussing the present situation, we have, in Table 8, given the figures, published by the Board of Education in 1909, 1913, 1921 and 1926, on occupation of fathers of pupils in grant-aided secondary schools. We have combined all professions in one group, traders' assistants, contractors, minor officials, clerks, commercial travellers and agents, postmen, policemen, seamen, and soldiers into one group of "salaried", domestic and other servants, skilled and unskilled workmen into one group of "wage-earners", other groups as in the Board's tables. To these tables we add the pupils in efficient secondary schools.

We must remember, however, that this table includes Wales, and also pupils up to 11 years who were in preparatory departments of secondary schools. Secondly, during this period, "free places" were awarded to successful candidates in competitive examinations irrespective of the means of their parents. As a result, many children of well-to-do parents received "free places," and as they were better prepared, they usually won a considerable number of these places. The figures, in Table 9, for 1913 show clearly the situation.

TABLE 9—FEE-PAYING AND FREE PUPILS BY OCCUPATIONS OF PARENTS

OCCUPATIONS OF PARENTS	IN PUBLIC ELEMENTARY SCHOOLS		IN PREPARATORY SCHOOL PUPILS		TOTAL	PERCENTAGE OF TOTAL PAYING PUPILS	PERCENTAGE OF FREE PUPILS
	FEES PAYING	FREE	FEES PAYING	FREE			
Professions	7,079	5,654	19,243	1,134	33,110	18.9	10.7
Wholesale traders	5,128	2,350	9,400	295	17,173	9.9	1.2
Farmers	3,949	2,061	3,104	140	9,254	5.4	3.5
Retail traders	11,625	9,336	11,501	618	33,080	18.9	15.7
Salaried	13,755	15,392	11,551	938	41,639	23.0	25.9
Wage-earners	10,105	24,137	2,030	421	36,693	21.0	38.0
No occupation	639	608	2,169	58	3,474	2.0	1.1
Total	52,280	59,538	59,001	3,604	174,423	100	100

Effect of Introduction of "Special Places"

If we take only the two first groups, we see that 15 per cent of all free places were won by pupils whose parents undoubtedly could pay fees. On the other hand, one-third of the parents of the wage-earning group were compelled to pay fees, which entailed financial hardship. In 1932, the Board of Education changed the regulations concerning "free places," introducing the policy of "special

places" and payment of fees in accordance with means. This step radically changed the composition of "free places" and of the old classification of parents by means of occupation. The parents whose weekly income was below £3-£4 in rural areas, £4-£4 10s in urban areas and county boroughs and £5 in the larger cities were entitled to free places if having one child. Every additional child raised the limit by ten shillings. Parents with an income above the limit have to pay full or partial fees, according to circumstances. Comparing the pupils admitted to grant-aided secondary schools in 1932, before the regulations were issued, and in 1937, we get the following figures

	1932	1937
1 Ex-elementary school pupils		
(a) Paying full fees	26,176	22,937
(b) Paying partial fees	—	7,213
(c) Paying no fees	39,202	38,458
2 Other pupils (about 300 free pupils)	20,492	17,522

Distribution of Age-group of 12 Years

In 1932, about 10,000 pupils received free places irrespective of the incomes of their parents. At present, we know that parents with incomes below the stated limits are the only candidates for the free education of their children. The second group is formed of parents who educated their children in public elementary schools and whose income is above the limit for free places. The third group is formed of those parents who educate their children in preparatory, private schools or at home. If we take the age-group 10-11 years in 1936 (578,000), we see from Table 4, col. 5, that 38,000 (or 7 per cent) were educated in private preparatory schools or at home, and 540,000 in public elementary and similar schools. After 12 years the age-group was distributed as seen in Table 10 on page 158.

Distribution of Parents by Occupations

From these figures we have our three groups of population. The largest includes the pupils of elementary schools (470,000) plus the free-placers in grant-aided schools (38,488). The second includes all ex-elementary school pupils paying fees (30,150), and the third, pupils in independent schools or transferred to grant-aided schools from independent schools (39,522). We can ascertain the social status of parents of this age-group from the census of 1931. The fathers of this age-group, i.e. married males between 25 and 60 years, were distributed by occupations as seen in Table 11.

If we combine the first two groups (professions and employers) we get 44,000 children, or almost an equal figure to pupils of independent schools. Farmers and independent workers, with retail traders, form 41,000, which slightly exceeds the fee-paying

TABLE 10 -- DISTRIBUTION OF 12-YEAR-OLD AGE-GROUP

	CHILDREN	PERCENT AGE
1 Remained in public elementary and special schools	470,000	81.3
2 Transferred to grant-aided secondary schools		
(a) From public elementary schools		
Paying no fees	38,158	6.7
Paying partial fees	7,213	1.2
Paying full fees	22,937	4.0
(b) From other schools	17,522	3.0
Total in grant-aided schools	86,130	14.9
3 Transferred to efficient independent schools	9,000	1.5
4 Remained in private schools or at home	13,000	2.3
Total age-group in 1937	578,000	100

TABLE 11 -- DISTRIBUTION OF PARENTS BY OCCUPATIONS

FATHERS	NUMBER IN 000's	PERCENT AGE	THE AGE GROUP 10-11		
			NUMBER	PERCENT AGE	
1 Professions	256	3.7	1	21,000	3.7
2 Employers, wholesale traders	271	3.9		23,000	3.9
3 Farmers	144	2.1	2	12,000	2.1
4 Independent craftsmen and retail tradesmen	342	5.0		29,000	5.0
5 Salaried	885	12.9	3	75,000	12.9
6 Wage-earners	4,842	70.6		408,000	70.6
7 No occupation	122	1.8		10,000	1.8
Total	6,862	100		578,000	100

ex-public elementary school pupils of grant-aided schools. The salaried and wage-earning group almost equals our first group of elementary school pupils and free-placers. Certainly there is overlapping of these two methods of classification. A few thousand children of the professional and employers group attend public elementary schools, and a few thousand children of other groups attend preparatory and private schools, but in the main the identification of children of the professional and employers' group with pupils of preparatory and private schools is correct. From Table 4 we see that from 38,322 children of this group, 17,522 entered

grant-aided secondary schools and about 9,000 independent secondary schools, which amounts to 61 per cent of the group. Ex-elementary school pupils show only 12.8 per cent. If we deduct the independent schools and consider only the State-aided system, still the first group shows 45.6 per cent of its children receiving education with the help of public funds. Although relatively this group is in a privileged position, it supplied the nation with only 28 per cent of its secondary school pupils, whilst the poorest group (free-placers) supplied 40 per cent. The last figure is gradually increasing, whereas the first is decreasing.

Regional Differences

We cannot go into detailed comparison of different groups of parents by regions. In spite of local variation, the figures will confirm the conclusions reached for the country as a whole. However, the table on page 160 giving the percentages of various classes of pupils admitted to grant-aided secondary schools in 1936-7 shows clearly the local variation.

Analysis of Table 12

We note at once that three counties, Bedfordshire, Hertfordshire and Surrey, all in the Metropolitan area, have more than 40 per cent of pupils in grant-aided schools from private and preparatory schools, and only about 20 per cent ex-elementary free pupils. As a result, only about 5 per cent of the elementary pupils can hope for a free place. On the other hand, industrial counties have a very low percentage of pupils from private schools—Durham only 3.4 per cent, Derbyshire 10.1 per cent, Yorkshire West Riding 10.2 per cent, Northumberland 10.7 per cent, and so on, and a very high percentage of ex-elementary free pupils. Durham has 72.2 per cent, Yorkshire West 59.5 per cent, Staffordshire and Warwickshire over 50 per cent, and so on. Middlesex is an exception, in spite of being a suburban area. More than 50 per cent of all pupils receive free places and 19.4 per cent partial fees places. Besides Middlesex, three more counties, Essex, Hampshire and Wiltshire, award a high percentage of special places with partial fees. Five counties, Durham, Essex, Middlesex, Isle of Wight and Wiltshire, and 24 county boroughs, including the following twelve large cities, Birmingham, Bradford, East Ham, Kingston-upon-Hull, Manchester, Newcastle-upon-Tyne, Nottingham, Plymouth, Portsmouth, Sheffield, Stoke-on-Trent and Sunderland, have introduced a 100 per cent award of "special places," so that in future no fee-paying pupils can be admitted with a standard lower than that demanded from "free-placers." This explains the low percentage of pupils from private schools in these areas.

* Education of Girls

In 1867, all the 535 endowed secondary schools which were actually open, and 70 other secondary schools, were schools for

TABLE 12—PERCENTAGES AND TYPES OF PUPILS ADMITTED TO GRANT-AIDED SECONDARY SCHOOLS BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES	PERCENTAGES OF PUPILS ADMITTED TO GRANT-AIDED SECONDARY SCHOOLS				PERCENTAGES OF PLACES TO ELEMENTARY SCHOOLS PUPILS 10-11 YEARS	
	IN ELEMENTARY SCHOOLS PUPILS PAYING			OTHER PUPILS	FULL PLACES	PARTIAL PLACES
	NO FEES	PARTIAL FEES	FULL FEES			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bedfordshire	22.3	6.2	27.4	44.1	4.7	1.3
Berkshire	30.5	5.6	27.8	36.1	4.4	0.8
Buckinghamshire	42.5	8.4	33.6	15.5	7.1	1.4
Cambridge and Huntingdon	37.9	2.9	29.2	30.0	7.3	0.5
Cheshire	34.5	5.1	33.6	26.8	7.2	1.1
Cornwall	29.5	3.5	46.2	20.8	5.7	0.7
Cumberland	39.8	3.0	44.1	13.1	6.3	0.5
Derbyshire	46.2	6.1	37.6	10.1	5.8	0.8
Devonshire	42.4	7.3	20.1	30.2	9.6	1.6
Dorsetshire	43.7	8.5	25.6	22.2	9.0	1.8
Durham	72.2	5.5	18.9	3.4	7.3	0.5
Essex	35.9	28.6	17.3	18.2	5.6	4.1
Gloucestershire	43.6	6.9	28.5	21.0	8.7	1.4
Hampshire	28.8	14.6	33.2	23.4	4.7	2.9
Herefordshire	27.0	3.0	46.3	23.7	5.0	0.6
Hertfordshire	18.9	7.8	27.8	45.5	3.7	1.6
Kent	40.7	6.4	22.4	30.5	7.7	1.2
Lancashire	49.7	5.7	33.2	11.4	8.6	0.8
Leicestershire	48.2	4.1	27.4	20.3	8.1	0.7
Lincolnshire and Rutland	42.8	1.8	30.3	22.1	7.8	0.9
London	49.6	4.3	20.7	25.4	6.8	0.6
Middlesex	50.3	19.4	14.9	15.4	11.8	4.5
Norfolk	52.1	5.7	21.1	21.1	7.4	0.8
Northamptonshire	32.0	4.0	41.0	23.0	5.6	0.7
Northumberland	41.9	7.7	39.7	10.7	5.4	1.0
Nottinghamshire	35.2	11.5	34.6	18.7	4.3	1.4
Oxfordshire	42.4	3.5	29.5	24.6	7.6	0.6
Shropshire	37.2	5.0	36.8	21.0	6.9	0.9
Somerset	44.1	4.9	27.1	23.9	9.1	1.0
Staffordshire	50.6	3.5	30.4	15.5	4.8	0.3
Suffolk	36.3	4.6	28.3	30.8	5.5	0.7
Surrey	21.1	5.3	27.8	45.8	4.9	1.2
Sussex	30.7	2.6	30.2	36.5	5.9	0.5
Warwickshire	50.1	9.9	22.8	17.2	7.0	1.4
Westmorland	43.0	2.6	37.7	16.7	9.3	0.6
Wiltshire	30.3	46.7	7.4	15.6	6.6	10.3
Worcestershire	41.7	6.2	31.0	21.1	5.3	0.9
Yorkshire East and North	36.3	4.2	40.7	18.8	6.7	0.8
Yorkshire West	59.5	6.0	24.3	10.2	11.0	0.7
England	44.6	8.4	26.6	20.4	7.2	1.4

boys only Only 23 schools for girls could be classified as secondary schools By the Endowed Schools Act, 1869, three commissioners were appointed to inquire into the endowments and prepare schemes of reorganisation "In forming schemes under this Act, provision shall be made as far as conveniently may be for extending to girls the benefits of endowments" Under this guidance, the Commissioners tried to allot, wherever the trust-deeds allowed, a certain proportion of ancient endowments towards the education of girls Thus the surplus revenues of King Edward's Schools at Birmingham provided for the first four endowed schools for girls In the 'seventies, the famous school of Miss Buss in London received its endowment from the Platt Charity In Bradford, part of the old endowment was apportioned "to supply a liberal education for girls," and at Manchester several girls' schools were endowed from the Hulme's Charity Later the Harpur Trust in Bedford provided for two schools for girls, and the Almeyn's Charity for two schools at Dulwich These are the most notable cases of diverting the old endowments to new purposes In 1897, there were, altogether, 86 endowed schools for girls (63 secondary) and 31 mixed endowed schools (15 secondary) In comparison with 502 (448 secondary) endowed schools for boys, this number was very small, but it laid a sure foundation for further development Many new schools were founded by subscribers and companies chiefly of a denominational character, but including such an undenominational company as the Girls' Public Day School Trust Company The number of secondary schools for girls of this category compared favourably with boys' schools In 1897, there were 117 schools for girls, 92 for boys and 2 mixed of this category The local authorities also had a small number of secondary schools 19 for boys, 2 for girls and 37 mixed The status of many private schools cannot be definitely ascertained Here is the number of private boarding schools, presumably of secondary school status boys, 179, girls, 76, mixed, 6 In all, 738 presumably secondary schools for boys, 258 schools for girls and 75 mixed schools In all these schools there were about 80,000 boys and 25,000 girls Table 13 is a regional table comparing the data for 1897 (excluding all private schools) with the schools on List 60 (Efficient Secondary Schools) for 1937

From these figures we see how in forty years, by the combined efforts of the State, local authorities and voluntary agencies, the gaps in secondary education for girls were filled The number of schools for girls is even larger than those for boys, but owing to richer endowments and ancient standing, the schools for boys are larger as a rule, and as a result, the number of boys in secondary schools is greater both absolutely and relatively Regionally, there is also great variation In Buckinghamshire, Cumberland, Durham, Essex, London, Middlesex, Norfolk, Northamptonshire, Shropshire, Surrey and Westmorland the number of girls in secondary schools is greater than boys, owing largely to the transfer of girls from other

TABLE 13—COMPARISON OF SECONDARY SCHOOLS
IN 1897 AND 1937 BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES	1897				1937			
	NUMBER OF SCHOOLS				NUMBER OF SCHOOLS			
	BOYS	GIRLS	MIXED	TOTAL	BOYS	GIRLS	MIXED	TOTAL
Bedfordshire	4	2	—	6	4	4	1	9
Berkshire	13	2	—	15	14	14	2	30
Buckinghamshire	5	1	—	6	6	6	3	15
Cambridgeshire	6	—	—	6	7	6	—	13
Cheshire	16	5	3	24	16	19	9	44
Cornwall	4	2	—	6	8	10	8	26
Cumberland	7	1	1	9	3	4	9	16
Derbyshire	10	1	4	15	10	8	11	29
Devonshire	19	4	1	24	21	18	11	50
Dorsetshire	9	—	—	9	9	7	8	24
Durham	13	3	3	19	13	14	13	40
Essex	12	3	1	16	22	23	10	55
Gloucestershire	17	9	1	27	17	14	16	47
Hampshire	13	3	1	17	18	21	10	49
Herefordshire	4	1	—	5	3	1	5	9
Hertfordshire	15	4	—	19	14	18	4	36
Huntingdonshire	1	—	—	1	1	1	3	5
Kent	20	9	—	29	41	45	—	76
Lancashire	35	17	18	70	57	64	30	151
Leicestershire	13	3	1	17	6	6	9	21
Lincolnshire	19	2	1	22	14	12	9	36
London	15	34	8	57	47	63	2	112
Middlesex	13	6	2	21	19	35	22	76
Norfolk	11	5	—	16	9	9	3	21
Northamptonshire	10	1	—	11	9	7	1	17
Northumberland	7	3	1	11	12	10	6	28
Nottinghamshire	6	3	3	12	8	7	3	18
Oxfordshire	10	1	1	12	6	5	6	17
Rutland	2	—	—	2	2	—	—	2
Shropshire	8	1	1	10	10	9	4	23
Somerset	16	3	2	21	17	17	7	41
Staffordshire	15	5	2	22	19	16	4	39
Suffolk	8	2	—	10	8	7	9	24
Surrey	18	8	2	28	30	41	4	75
Sussex	15	3	1	19	20	47	2	69
Warwickshire	20	8	1	29	22	23	5	50
Westmorland	6	1	—	7	4	4	2	10
Wiltshire	7	1	—	8	5	4	9	18
Worcestershire	17	3	—	20	10	12	5	27
Yorkshire N and E	16	2	2	20	18	22	11	51
Yorkshire West	42	14	11	67	50	40	31	121
England	547	166	72	785	619	692	300	1,611

areas In the whole country, the difference between the sexes is very small, only about 1 per cent (boys 16.9, girls 16.1). For the ex-elementary pupils the difference is larger (boys 13.8, girls 12.0),

because more girls than boys attend independent private and preparatory schools

C SECONDARY SCHOOL LEAVERS

• The Problem of "Wastage"

The statistics of admitted pupils show us the social and regional differences made by the methods of selection of secondary school pupils, but they do not show the further and much more important differentiation made by the system of examinations and entrance into the universities. The secondary school pupils form only the basis for the real "élite" of the nation. Those pupils who leave early or fail in examinations return to the "masses" and in their future careers are indistinguishable from pupils of senior schools or departments. It can even be said that the majority of pupils of senior schools are better prepared for life than the *wastage* of secondary schools.

First let us define what we understand by *wastage* in secondary schools. Although the examinations of the grant-aided secondary schools are administered by university examining bodies, it would appear that there is to-day a general consensus of opinion that these schools should not be considered as necessarily a preparatory step to the universities, for, if this was the ultimate function of grant-aided secondary schools, then the *wastage* would be appalling, since not more than 4-5 per cent of leavers over 14 years proceed to the universities. The great majority of secondary schools on the grant list are not, and were never meant to be, nurseries for the universities. It is true that the aims and purposes of secondary education have never been clearly defined and perhaps the forthcoming report of the Consultative Committee will shed a new light on the question. In the meantime, whatever the defects of the general organisation of secondary education may be, the examination system remains the only available test of its efficiency. We must, therefore, accept the results of examinations as indices of success. Presuming that pupils who passed the School Certificate examination profited by their attendance at secondary schools, and those who left without taking the examinations, or failed in it, wasted their energies on an unsuitable curriculum, we arrive at the conclusion that more than half (50·7 per cent) of all leavers over 14 years in 1936-7 must be considered as *wastage*. We may, however, narrow down the percentage still further. Out of 20,000 boys and 19,000 girls who did not pass the examination, only about 11,000 boys and 2,000 girls entered industrial, manual or agricultural occupations. If the few years in secondary schools cannot be considered as entirely wasted for these pupils, it is doubtful whether it can be deemed the most suitable preparation for these occupations. It may be argued that these pupils would have profited better by specially adapted courses with a practical bias at a senior school or junior technical school. The remaining

9,000 boys and 17,000 girls either entered clerical or commercial occupations, or remained at home (mostly girls). Many secondary schools have included commercial subjects and domestic science in their curriculum and therefore in many cases both boys and girls of this group, although failing to pass the examination, may be said to have profited by their attendance. The *wastage*, therefore, is only relative in this case.

The overcrowding of secondary schools with unsuitable pupils is largely due to a marked disparity in status between secondary schools and senior schools. The latter are still under the elementary school regulations, and in their staffing, buildings and all other amenities are often considered definitely inferior to the secondary schools. In addition, the historical snobbish prejudice (which is not the monopoly of any one social class) influences many parents in their preference for secondary schools. If this obsolete classification of schools were changed so that all post-primary schools were included under the same regulations the present secondary schools would doubtless be relieved of a large number of pupils whose educational needs would be best served in a different type of school.

Table 14 on page 167 was compiled from the Board of Education List 62 for 1924-8 and 1936-7. The percentages are not exactly comparable, since during the period 1936-7 the classification was changed. But the "assisted" pupils of 1936-7 include a very small percentage of pupils paying partial fees, and for all practical purposes can be safely compared with the *free* pupils of 1924-8. The pupils with Higher Certificates in 1936-7 can only be compared with those who proceeded to the universities in 1924-8 with caution. The number of pupils with Higher Certificates is greater than those who proceeded to the universities. In 1936-7, 2,593 boys and 1,569 girls received Higher Certificates, but only 2,196 boys and 981 girls proceeded to the universities. Very possibly the ratio of these two groups varies by regions, and regional comparisons, therefore, should be made with qualification. But the general conclusion for the whole country is quite correct. The first two columns of all four sets of percentages show the ratio of fee-paying and free (assisted) pupils who passed the examination or proceeded to the universities. The third column of each set (4, 7, 10 and 13) shows the percentage of free (assisted) pupils to all successful candidates. Taking the country as a whole, we notice the following changes from 1924-8 to 1936-7: (i) The percentage of successes in School Certificate examinations has risen considerably both for boys and girls, but the increase among the fee-paying pupils is much greater than among the free (assisted) pupils. (ii) The percentage of assisted pupils to total number of successful pupils has increased. (iii) The percentage of pupils proceeding to the universities has decreased for all groups. (iv) The percentage of assisted pupils to all pupils proceeding in the universities has increased.

The Effect of Regional Differences

(a) *School Certificate*

These averages for England, however, conceal many regional features. Whereas the percentage of successful fee-paying pupils in School Certificate examinations has increased throughout the country, with the sole exception of boys in Westmorland, the percentage of successful assisted pupils has decreased in a number of counties. In Cambridgeshire, Bedfordshire, Northumberland, Oxfordshire, Staffordshire and Worcestershire the percentage of girls has decreased. In Cornwall and Rutland the percentage of boys, and in Cumberland, Middlesex, Norfolk and Warwickshire the percentages of both sexes, have decreased. The causes of this decrease are of local origin and sometimes obscure, although in the case of Middlesex it is evidently the result of the lowering of the standard of entrance examination since 1926, when the policy of 100 per cent special places was introduced. The uniform increase in the percentages of fee-paying pupils is undoubtedly due to a more strict selection. In many areas the fee-paying pupils have to pass the same examination as the free-placers, which was not the case in 1924-8.

(b) *Fee-paying Pupils*

As a rule, the entrance examination for fee-paying pupils is of a lower standard than the competitive examination for the free-placers. In consequence, the percentages of fee-paying pupils passing the School Certificate examination are much lower. During the four years 1924-8 they were less than half of the percentages for the free pupils. During the period 1928-37, many areas introduced the policy of 100 per cent special places and raised the standard of entrance examinations for the fee-paying pupils. As a result, the percentages were considerably increased. Thus in Middlesex, 20.7 (boys) and 20.2 (girls) in 1927-8 increased to 53.1 and 45.4, in Wiltshire from 11.7 (boys) and 15.7 (girls) to 46.3 and 42.6, in Warwickshire from 26.3 (boys) and 19.4 (girls) to 57.3 and 44.4, in Essex from 30.9 and 23.5 to 55.9 and 38.0. In spite of this increase in the number of successful pupils, the relative number of fee-paying pupils is decreasing as the number of assisted pupils increases, both absolutely and relatively. Only one-third of successful pupils are fee-paying.

(c) *Assisted Pupils*

As mentioned above, the percentages of successful assisted pupils have increased on the whole with the exception of a few areas. In those areas where the policy of 100 per cent special places was introduced, it led to a certain lowering of standards for free pupils, and in Middlesex and Warwickshire (Birmingham especially) resulted in a smaller percentage of successful assisted pupils. It seems that the equalisation of standards for fee-paying and free pupils is beneficial if the standards are raised to the former level of the free-placers, but not otherwise.

(d) Comparison of Passes

When we select the seven counties having the highest percentages of passes for assisted pupils, we get the following list: Berkshire (boys, 73.0, girls, 61.1), Buckinghamshire (boys, 74.6, girls, 76.0), Cheshire (boys, 71.4, girls, 62.5), Hertfordshire (boys, 79.2, girls, 68.0), Kent (boys, 78.5, girls, 65.4), London (boys, 75.2, girls, 63.8), Surrey (boys, 81.6, girls, 66.4). These are just the counties which have a considerable number of fee-paying pupils and a high standard of entrance examination for free pupils. The seven counties having the lowest percentages of passes of assisted pupils are the following: Durham (boys, 53.2, girls, 42.1), Leicestershire (boys, 57.2, girls, 38.1), Middlesex (boys, 56.0, girls, 43.6), Norfolk (boys, 54.2, girls, 47.6), Oxfordshire (boys, 45.7, girls, 49.0), Warwickshire (boys, 56.3, girls, 46.4), and Wiltshire (boys, 44.4, girls, 43.5). Of these areas, Durham, Middlesex, Warwickshire and Wiltshire have introduced 100 per cent special places and their standards of entrance examination are lower than in other counties for free places. It would appear that Leicestershire, Norfolk and Oxfordshire have also lower standards of entrance examination, although they have not yet accepted the policy of 100 per cent special places. The general conclusion from these figures is that to avoid the *wastage*, the standards of entrance examination should be raised for both groups of pupils to the highest standard accepted for the free-placers.

(e) The Output to Universities

Less than 5 per cent of all leavers over 14 years of grant-aided secondary schools proceed to the universities. But as they supply the universities with about one-third of all their students, their importance in this respect is not negligible. Comparing figures for 1927-8 and 1936-7, we notice that the percentages of fee-paying pupils proceeding to the universities remained stationary, whereas the percentages of assisted pupils decreased both for boys and girls. The actual figures (Higher Certificate) given in the table should be reduced for the assisted students, as the number with Higher Certificate considerably exceeds that of those who proceeded to the universities. The regional comparisons are not an entirely safe guide, but in certain areas the figures do point out a definite change. For instance, the percentages of fee-paying pupils have considerably decreased in Bedfordshire, Berkshire, Cambridgeshire, Devonshire, Herefordshire, Hertfordshire, London, Northamptonshire, Northumberland, Oxfordshire, Surrey (for both sexes), and in Cornwall, Durham, Leicestershire, Norfolk, Suffolk and parts of Yorkshire (for boys). In all these cases, the fee-paying pupils outnumber the assisted pupils in grant-aided schools, and evidently with a general increase of pupils, new groups of parents began to send their children (particularly boys) as fee-paying pupils without the intention of sending them later to universities. This tentative conclusion may be confirmed by the increase of percentages in

TABLE 14.—LEAVERS FROM GRANT-AIDED SECONDARY SCHOOLS AFTER THE AGE OF 14

GEOGRAPHICAL COUNTIES BY SEXES	1924-1925										1926-1927												
	WITH SCHOOL CERTIFICATE					PROCEEDED TO THE UNIVERSITIES					WITH SCHOOL CERTIFICATE					WITH HIGHER CERTIFICATE							
	FREE PAYING PERCENT AGE	(2)	FREE PERCENT AGE	(3)	PERCENT- AGE OF FREE TO TOTAL	(4)	FREE PAYING PERCENT AGE	(a)	FREE PERCENT AGE	(c)	PERCENT OF FREE TO TOTAL	(7)	FREE PAYING PERCENT AGE	(b)	FULL PERCENT AGE	PERCENT AGE OF ASSISTED TO TOTAL	(10)	FULL PERCENT AGE	(11)	ASSISTED PERCENT AGE	(12)	PERCENT AGE OF ASSISTED TO TOTAL	(13)
(1)																							
<i>Bedfordshire</i>																							
Boys	32.8	57.9	34.7	8.1	31.9	8.1	8.7	3.5	7.6	44.6	29.5	45.4	70.1	43.2	3.4	15.4	68.0						
Girls	26.5	57.2	44.5	7.6	44.6	7.6	3.5	3.5	11.4	48.8	35.1	73.0	61.1	62.2	2.6	5.7	50.0						
<i>Berkshire</i>																							
Boys	22.1	45.3	43.0	3.4	48.8	8.8	6.9	1.1	4.5	68.4	29.3	74.6	80.0	55.7	1.1	3.5	86.6						
Girls	31.5	53.3	43.9	8.8	36.9	8.8	6.9	2.2	6.3	60.0	51.3	76.0			1.6	4.0	86.6						
<i>Buckinghamshire</i>																							
Boys	19.3	58.3	61.6	1.1	68.4	4.5	1.1	4.5	4.5	68.4	29.3	74.6	80.0	55.7	2.7	7.9	70.0						
Girls	22.7	56.1	56.7	2.2	60.0	6.3	2.2	6.3	6.3	60.0	51.3	76.0			7.2	2.4	22.2						
<i>Cambridgeshire and Isle of Ely</i>																							
Boys	20.5	59.0	52.8	8.9	36.0	12.7	8.9	2.6	17.8	33.8	48.9	57.7	53.3	54.1	3.8	16.0	75.0						
Girls	26.2	58.0	48.4	5.1	17.8	2.6	5.1	10.2	66.7	37.5	33.8	57.0	63.2	63.2	3.2	2.2	22.2						
<i>Cheshire</i>																							
Boys	28.1	60.9	57.2	3.1	66.7	6.6	3.1	10.2	66.7	37.5	37.5	71.4	63.2	63.2	2.6	11.2	79.5						
Girls	24.5	50.2	56.0	2.9	58.7	6.6	2.9	6.6	58.7	31.3	31.3	62.5	63.2	63.2	2.9	8.0	70.3						
<i>Cornwall</i>																							
Boys	15.7	52.9	64.2	1.2	47.1	1.9	1.2	1.9	47.1	30.2	30.2	52.3	55.9	52.2	0.9	3.8	83.3						
Girls	13.9	53.6	68.4	0.4	73.0	2.2	0.4	2.2	73.0	29.0	29.0	65.5	65.5	52.2	1.4	7.3	72.7						
<i>Cumberland</i>																							
Boys	20.1	61.3	67.8	1.4	81.8	9.3	1.4	9.3	81.8	25.9	25.9	59.4	70.0	72.1	3.1	9.7	76.2						
Girls	21.1	61.1	69.2	2.8	68.1	7.8	2.8	7.8	68.1	25.2	25.2	56.0	66.7	72.1	3.5	9.7	76.5						
<i>Derbyshire</i>																							
Boys	16.7	61.0	69.9	1.5	79.1	9.2	1.5	9.2	79.1	33.8	33.8	66.7	66.8	66.8	4.1	14.3	78.2						
Girls	14.1	61.2	79.0	1.7	76.6	6.4	1.7	6.4	76.6	24.6	24.6	60.0	70.0	78.3	2.3	10.0	84.6						
<i>Devonshire</i>																							
Boys	25.5	49.0	53.8	3.5	48.2	5.5	3.5	5.5	48.2	39.7	39.7	67.4	65.9	65.9	1.7	9.1	86.0						
Girls	21.2	40.3	61.3	1.9	42.0	1.7	1.9	1.7	42.0	24.6	24.6	48.8	73.0	73.0	1.5	4.3	79.2						
<i>Dorsetshire</i>																							
Boys	20.8	44.6	57.6	1.1	50.0	1.7	1.1	1.7	50.0	33.0	33.0	58.6	63.2	63.2	3.1	6.5	68.4						
Girls	15.6	50.6	71.1	1.2	42.9	1.1	1.2	1.1	42.9	32.8	32.8	35.9	64.0	64.0	1.7	2.4	60.0						

TABLE 14—continued

GEOGRAPHICAL COUNTRIES BY SEXES	1924-1928										1928-1937				
	WITH SCHOOL CERTIFICATE					PROCEEDED TO THE UNIVERSITIES					WITH SCHOOL CERTIFICATE			WITH HIGHER CERTIFICATE	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	FEE PAYING PERCENT AGE	FEE PERCENT AGE	PERCENT AGE OF FREE TO TOTAL	FEE-PAYING PERCENT AGE	FREE PERCENT AGE	PERCENT AGE OF FREE TO TOTAL	FULL FEE PAYING PERCENT AGE	ASSISTED PERCENT AGE	PERCENT AGE OF ASSISTED TO TOTAL	FULL FEE-PAYING PERCENT AGE	ASSISTED PERCENT AGE	PERCENT AGE OF ASSISTED TO TOTAL	FULL FEE-PAYING PERCENT AGE	ASSISTED PERCENT AGE	PERCENT AGE OF ASSISTED TO TOTAL
<i>Durham</i>	23.5	43.3	63.5	5.2	9.3	62.6	40.6	53.2	86.0	0.9	7.3	97.6	0.9	7.3	97.6
Boys	19.6	37.6	68.8	1.9	5.2	70.1	26.1	42.1	86.4	3.1	5.1	86.6	3.1	5.1	86.6
Girls															
<i>Essex</i>	30.9	65.3	53.0	3.6	7.4	52.2	55.9	69.0	59.3	3.6	6.7	67.4	3.6	6.7	67.4
Boys	23.5	50.0	57.2	2.4	4.5	54.4	38.0	52.6	63.6	2.9	2.8	55.1	2.9	2.8	55.1
Girls															
<i>Gloucestershire</i>	21.1	55.8	63.8	3.9	10.1	63.4	40.2	62.8	67.8	3.4	8.2	76.3	3.4	8.2	76.3
Boys	26.2	54.1	60.0	3.8	9.8	64.9	36.1	56.4	66.1	4.8	5.4	58.3	4.8	5.4	58.3
Girls															
<i>Hampshire</i>	22.8	44.0	54.9	1.3	2.4	53.0	47.9	59.2	50.6	4.5	8.4	60.8	4.5	8.4	60.8
Boys	21.6	45.7	50.6	1.6	1.6	32.7	37.4	54.1	56.6	2.6	6.0	66.6	2.6	6.0	66.6
Girls															
<i>Herefordshire</i>	16.7	46.0	55.8	3.4	7.4	50.0	27.0	65.8	62.5	0.9	10.5	88.9	0.9	10.5	88.9
Boys	21.8	51.9	56.1	1.6	6.8	69.2	21.8	57.9	55.5	1.3	—	—	1.3	—	—
Girls															
<i>Hertfordshire</i>	30.2	61.1	39.5	8.4	7.1	21.3	52.8	79.2	39.7	5.6	15.3	52.9	5.6	15.3	52.9
Boys	28.9	56.1	44.1	4.4	4.0	27.3	46.4	68.0	42.1	4.4	5.4	38.1	4.4	5.4	38.1
Girls															
<i>Huntingdonshire</i>	18.1	40.3	58.5	2.7	3.4	44.4	43.7	50.0	58.0	2.1	5.2	75.0	2.1	5.2	75.0
Boys	7.0	52.9	83.3	0.8	5.9	83.3	33.3	55.6	31.1	—	3.7	100	—	3.7	100
Girls															
<i>Kent</i>	22.7	56.0	57.2	3.7	7.4	51.7	42.6	78.5	53.9	3.4	8.3	61.0	3.4	8.3	61.0
Boys	21.7	53.2	61.3	2.3	5.3	60.6	35.3	65.4	56.0	3.1	7.6	52.3	3.1	7.6	52.3
Girls															
<i>Lancashire</i>	24.7	56.9	62.2	3.9	10.0	64.7	36.8	67.7	68.0	3.9	11.1	77.1	3.9	11.1	77.1
Boys	22.1	49.0	67.4	3.3	6.5	66.0	33.3	57.5	70.1	3.4	8.0	77.6	3.4	8.0	77.6
Girls															
<i>Leicestershire</i>	17.5	39.0	61.4	1.7	3.1	56.1	37.1	57.2	61.1	4.1	7.7	65.0	4.1	7.7	65.0
Boys	16.0	31.8	56.8	1.6	1.2	31.3	26.3	38.1	61.0	2.3	6.2	74.1	2.3	6.2	74.1
Girls															

<i>Lincolnshire</i>	158	523	686	22	48	590	324	663	677	16	96	800
Boys	157	464	718	19	50	692	342	551	617	33	88	725
<i>London</i>												
Boys	242	683	642	42	112	628	380	752	636	32	123	798
Girls	223	580	664	37	81	628	343	680	680	22	61	767
<i>Middlesex</i>												
Boys	207	608	606	16	72	704	531	560	756	42	32	687
Girls	202	509	600	20	61	635	454	436	667	28	15	512
<i>Norfolk</i>												
Boys	238	564	579	19	53	616	390	542	566	04	37	900
Girls	200	500	615	29	56	559	330	476	611	42	60	608
<i>Northamptonshire</i>												
Boys	198	475	538	41	51	375	355	674	515	13	47	666
Girls	117	249	600	19	25	482	243	450	571	17	24	500
<i>Northumberland</i>												
Boys	217	594	586	46	110	579	446	677	600	26	96	784
Girls	269	589	618	32	70	615	389	546	600	17	64	800
<i>Nottinghamshire</i>												
Boys	159	484	691	20	31	532	436	657	680	35	47	654
Girls	196	505	715	15	18	539	275	559	686	18	67	810
<i>Oxfordshire</i>												
Boys	217	400	469	50	85	451	291	457	611	20	60	750
Girls	234	506	486	42	60	389	322	490	625	22	30	600
<i>Rutland</i>												
Boys	390	611	156	104	389	304	589	230	42	128	—	—
Girls	—	—	—	—	—	—	—	—	—	—	—	—
<i>Shropshire</i>												
Boys	125	411	696	24	71	673	256	620	648	33	109	700
Girls	146	473	679	13	45	700	249	554	609	22	86	733
<i>Somerset</i>												
Boys	195	451	454	43	62	340	343	534	563	40	68	562
Girls	229	536	573	25	81	646	361	532	578	25	40	583
<i>Staffordshire</i>												
Boys	218	609	692	26	103	758	447	656	668	59	92	680
Girls	175	577	766	19	41	674	332	510	700	29	72	795
<i>Suffolk</i>												
Boys	231	512	460	30	61	447	366	711	575	10	42	750
Girls	187	498	614	20	30	464	304	532	626	25	39	600
<i>Surrey</i>												
Boys	276	639	522	46	68	413	445	816	500	29	100	651
Girls	206	553	553	24	53	508	319	664	510	09	46	690

TABLE 14—continued

GEOGRAPHICAL COUNTRIES BY SEXES	1924-1928						1936-1937					
	WITH SCHOOL CERTIFICATE			PROCEEDED TO THE UNIVERSITIES			WITH SCHOOL CERTIFICATE			WITH HIGHER CERTIFICATE		
	PER PAYING PERCENT AGE	FREE PERCENT AGE	PERCENT OF FREE TO TOTAL	PER PAYING PERCENT AGE	FREE PERCENT AGE	PERCENT OF FREE TO TOTAL	FULL PER PAYING PERCENT AGE	ASSISTED PERCENT AGE	PERCENT ASSETED TO TOTAL	FULL PER PAYING PERCENT AGE	ASSISTED PERCENT AGE	PERCENT ASSETED TO TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<i>Sussex</i>	21.4	56.9	56.1	1.5	5.1	61.5	38.6	67.2	54.0	2.3	7.5	68.7
Boys	19.9	49.5	62.2	2.4	3.7	50.0	31.8	61.2	60.0	2.2	6.0	66.6
Girls												
<i>Warricksire</i>	26.3	57.2	61.0	3.7	10.0	65.8	51.3	56.3	63.8	8.9	8.3	60.1
Boys	19.4	53.5	70.0	2.3	10.5	80.0	44.4	46.4	65.0	4.3	4.4	64.9
Girls												
<i>Westmorland</i>	21.4	78.0	59.0	4.3	10.0	60.0	18.8	53.3	72.7	—	4.4	100
Boys	15.6	43.6	60.6	1.8	8.5	72.7	34.0	72.5	63.0	4.0	7.5	60.0
Girls												
<i>Wiltshire</i>	11.7	39.7	81.0	2.5	3.6	64.6	46.3	44.4	58.1	4.0	2.2	50.0
Boys	15.7	40.3	77.8	1.7	3.0	71.4	42.6	43.5	64.4	1.7	4.0	80.0
Girls												
<i>Worcestershire</i>	23.0	57.4	60.7	3.4	9.9	64.3	33.6	67.5	63.8	5.0	9.4	62.2
Boys	13.2	61.0	77.7	1.2	8.6	84.1	30.6	57.1	66.7	1.0	9.2	90.5
Girls												
<i>Yorkshire (East and North)</i>	18.9	50.7	56.7	3.8	7.3	47.5	35.1	60.0	63.2	2.6	8.1	75.0
Boys	17.5	44.7	62.8	2.5	5.1	57.9	30.6	57.6	66.4	2.9	6.3	69.9
Girls												
<i>Yorkshire (West)</i>	22.4	42.2	72.9	4.6	8.1	71.5	33.7	60.0	80.1	3.0	8.4	86.0
Boys	19.1	38.5	74.7	3.4	6.5	74.4	29.8	47.5	77.0	3.6	6.7	79.7
Girls												
<i>England</i>	23.1	54.1	60.8	3.7	8.2	59.7	40.0	64.2	65.2	3.4	8.6	77.8
Boys	20.7	48.9	65.0	2.7	5.9	63.2	33.7	53.9	66.2	2.9	5.9	71.1
Girls												

TABLE 15—PUPILS PROCEEDING TO UNIVERSITIES FROM ALL SOURCES

PUPILS FROM GRANT AIDED SECONDARY SCHOOLS PROCEEDING TO UNIVERSITIES													ONE YEAR LATER	
YEARS	BOYS					GIRLS		PERCENTAGE TO TOTAL LEAVERS OVER 14			TOTAL NUMBER OF STUDENTS ADMITTED TO UNIVERSITIES ¹		PERCENTAGE OF 4 TO 10	
	IN PUBLIC ELEMENTARY SCHOOL PUPILS		OTHER PUPILS		IN PUBLIC ELEMENTARY SCHOOL PUPILS	OTHER PUPILS	BOYS	GIRLS	MEN	PERCENTAGE OF 4 TO 10	WOMEN			
	(2)	(3)	(4)	(5)										
1908-9	291	290	98	186			3.5	2.0	2,918	No data yet			37.8	
1920-1	945	596	700	460			5.8	4.8	5,630	32.4	1,871		29.3	
1921-2	1,017	638	671	459			5.5	4.1	5,410	18.1	2,241		27.5	
1922-3	968	609	619	482			4.8	3.7	5,519	17.9	2,248		28.8	
1923-4	977	639	639	459			4.9	3.8	5,919	17.7	2,518		22.4	
1924-5	958	661	620	490			5.0	3.8	5,646	16.9	2,266		28.9	
1925-6	1,141	762	662	558			5.8	4.3	5,919	19.2	2,266		30.4	
1926-7	1,091	708	631	512			5.3	4.2	5,908	18.4	2,182		29.2	
1927-8	1,231	697	676	527			5.1	4.2	6,196	19.8	2,134		31.7	
1928-9	1,313	735	694	493			6.2	4.0	6,515	20.1	2,173		28.7	
1929-30	1,363	770	697	533			6.7	4.2	6,731	20.3	2,266		28.1	
1930-1	1,471	866	661	565			6.6	4.3	6,908	21.3	2,309		28.6	
1931-2	1,717	917	710	604			7.7	4.2	7,296	23.5	2,354		30.1	
1932-3	1,670	858	654	555			6.9	3.8	7,308	22.8	2,259		28.9	
1933-4	1,592	800	673	514			6.5	3.8	7,234	22.0	2,214		30.4	
1934-5	1,491	723	612	437			6.5	3.5	7,056	21.1	2,095		29.2	
1935-6	1,434	720	564	406			5.3	2.8	7,018	20.4	1,986		28.4	
1936-7	1,404	792	555	426			5.2	2.8		No data yet				

¹ Diploma students over 19 excluded

those areas where the number of fee-paying pupils has decreased, thereby forming only a small proportion of all pupils. The percentages of assisted pupils, too, cannot be compared regionally with safety, but for England as a whole there is a notable decrease. To understand better this decrease in pupils proceeding to the universities we give Table 15 for the whole post-war period.

Analysis of Table 15

The first seven columns give the figures, taken from the Reports of the Board of Education, for the pupils of grant-aided schools proceeding to the universities. Columns 8 and 10 give, for comparison, the number of students admitted to the universities a year later, taken from the Reports of the University Grant Committee. In order to eliminate teachers' diploma students, who are all post-graduate, we have deducted from total admissions all diploma students over 19 years. Columns 9 and 11 show the percentages of ex-public elementary school students to total students admitted. We are aware that these percentages slightly under-estimate actual figures, since a small number of ex-public elementary school pupils proceed to universities after an interval, and are not therefore included in the Board's figures. This number, however, is not great, as the overwhelming majority of ex-public elementary school students are free-placers and they usually enter universities without an interval. This table shows a remarkable tendency. Up to 1931-2, the number of ex-public elementary students grew steadily, both absolutely and relatively. Since 1931-2 and up to 1936-7, there was a continuous fall in numbers and in percentages. It is an interesting and important problem, requiring special study, and no attempt can be made here to offer the solution.¹

¹ In June 1938 there was a controversy in the Press and the House of Commons about the percentages of ex-public elementary pupils in the universities. In a publication entitled *Pohtual Arithmetic, A Symposium of Population Studies*, Professor Gray and Mr Glass gave the figure as 27 per cent for England and Wales. The Parliamentary Secretary of the Board of Education refuted this figure in the House and gave 42 per cent as the percentage of all students coming from the public elementary schools. Mr Glass calculated his figures from the Reports of the Board of Education and the Universities Grant Committee (as we have done). But he excluded from total figures all diploma students, even engineering diploma students, and in this way his figure for 1933-4 is slightly higher than ours. The figure given by the Parliamentary Secretary is not taken from any published sources, but would appear to have been supplied by the Universities Grant Committee. The Committee's figures are based on a different classification of ex-public elementary school pupils. The Board classifies only those pupils as ex-public elementary school pupils who before entering a secondary school attended a public elementary school for at least two years, whereas the Universities Grant Committee includes all pupils who at any time, and for any period, attended a public elementary school. In addition, the Committee deducts 10 per cent for foreign students, which we have not done. But we deducted all diploma students over 19 years, which it is suggested satisfactorily accounts for a considerable number of foreign students. Until the detailed figures are published by the Universities Grant Committee the controversy cannot be satisfactorily solved.

CHAPTER THREE

TECHNICAL AND VOCATIONAL EDUCATION

Introduction

TECHNICAL education in England has only recently been organised into a national system. As in other fields, the State intervention for a long period was limited to granting subsidies to voluntary agencies. The first institutions imparting technical education to artisans and mechanics owed their existence to the initiative of the working men themselves. These Mechanics' Institutes¹ flourished in the first half of the nineteenth century, following the foundation of the London Institute in 1825. The numerous Mechanics' Institutes and the later Working Men's Colleges did not, however, offer systematic courses of technical instruction, and, with a few exceptions, gradually developed into institutions of general education for adults, although a few of them have grown into higher technical colleges, later affiliated to the universities.

The State intervention began in 1836 with the foundation of the School of Design, now the Royal College of Art, and with the establishment of the Art Department in 1840. The Science Department began in 1853 and both were united as the Science and Art Department under the Board of Trade. In the 'fifties the Department promoted the foundation of eleven schools of science, only three of which, however (Birmingham, Bristol and Wigan), survived the period of initial struggle. In 1857, the Department was transferred to the Committee of the Council of Education, and in 1859 a system of grants-in-aid of science and art classes for the whole country was inaugurated. In 1872, organised science schools came into being, a number of which later developed into ordinary secondary schools, and only a few were transformed into full-time technical schools. In 1877, the City Livery Companies of London founded the City and Guilds Institute, which became the parent of many technical institutions, both in London and the provinces. A new impetus to technical education was given by the foundation of the Regent Street Polytechnic by Quentin Hogg in 1882, and many later polytechnics were fashioned on its model. In London, this growth of technical education was greatly aided by the apportioning in 1891 of part of the London Parochial Charities to technical institutions.

Creation of Local Authorities for Technical Education

A new period of State intervention ensued with the creation of local authorities for technical education in 1889, with rating powers

¹ For full account see YEAR BOOK, 1938, pages 877-8

and allocation in 1890 of the residue grants (Whisky Money) to the same purpose. The addition of these new sources for technical education resulted in a rapid growth throughout the country. Thus when the Board of Education came into being in 1899 with a centralised control, the main lines of the present system were already being laid down. But owing to the lack of a rational policy in the previous period, the local authorities varied considerably in their efforts. Some, including London, for many years used the residue grant (Whisky Money) for the relief of rates, thus depriving technical education of necessary funds. The creation of new local education authorities in 1902, and the publication of new Regulations in 1904, led to a complete reorganisation of the technical and evening education system. The local authorities were encouraged by the Board of Education to take over the old voluntary institutions which, in contrast to secondary education, resulted in an almost complete municipalisation of technical education. Out of about 500 technical colleges and schools, only about 20 are now maintained by independent bodies, receiving direct grants. In 1913, a new step was taken by creating the junior technical schools as a separate group for full-time instruction. The Education Act, 1918, introduced the 50-50 principle of State subsidy, and part-time continuation schools were included in the grant-aided system.

Provision of Technical Education by Counties

In spite of centralised control and the municipalisation of technical education, the lack of co-ordinated policy in the past resulted in great variation between the regions. Table 16 compares by counties the provision for technical education in 1904 and 1935. The classification has changed during the interval, but we can compare the technical institutes of 1904 (only 22) with the technical colleges (137) of 1935. Art schools have decreased in number, partly because technical colleges and evening institutes include art courses, which previously were provided only in art schools or day art classes. Day technical classes as a rule have developed into junior technical schools. Evening classes held in 1904 in many separate schools were centralised in 1935 in the evening institutes.

Both the number of institutions and the number of pupils and students have increased enormously, but of more importance is the improvement in the standard of instruction. But the tradition of part-time evening instruction remains unchanged. Out of more than a million pupils and students, only about 40,000 are receiving full-time day instruction. Table 17 gives the detailed data by geographical counties.

Analysis of Table 16

The first feature to be noticed is the more or less accidental distribution of full-time technical schools. Thirteen counties have no junior technical schools, and nine counties have only one school

TABLE 16—COMPARISON OF TECHNICAL EDUCATION
IN 1904 AND 1935 BY GEOGRAPHICAL COUNTIES

	NUMBER OF TECHNICAL AND VOCATIONAL COURSES IN									
	1904					1935				
	TECHNICAL INSTITUTES	ART SCHOOLS	DAY TECHNICAL CLASSES	DAY ART CLASSES	EVENING CLASSES	TECHNICAL COLLEGES	EVENING INSTITUTES	JUNIOR TECHNICAL AND SIMILAR SCHOOLS	ART SCHOOLS	COMMERCIAL SCHOOLS (SENIOR)
Bedfordshire	—	—	—	—	59	—	2	—	2	—
Berkshire	—	2	—	—	54	—	1	—	1	—
Buckinghamshire	—	1	—	1	94	1	2	1	1	—
Cambridgeshire	—	1	—	—	104	—	1	—	1	—
Cheshire	—	9	—	2	132	1	6	1	8	1
Cornwall	3	5	3	6	118	1	4	—	2	—
Cumberland	—	1	—	—	111	1	1	1	1	—
Derbyshire	1	3	1	1	117	2	5	—	2	—
Devonshire	—	13	1	2	193	1	2	3	2	1
Dorsetshire	—	4	—	2	89	—	3	—	1	—
Durham	1	6	1	—	161	3	8	2	4	—
Essex	1	5	—	1	191	7	2	8	6	1
Gloucestershire	1	9	1	2	99	2	8	2	4	—
Hampshire	—	6	2	7	173	3	1	3	3	—
Herefordshire	—	1	—	—	27	—	—	—	1	—
Hertfordshire	—	3	—	4	47	—	1	1	2	—
Huntingdonshire	—	—	—	—	13	—	—	—	—	—
Kent	1	11	—	5	137	3	11	12	13	—
Lancashire	2	26	2	2	769	24	33	28	19	6
Leicestershire	1	2	—	—	103	2	3	1	2	—
Lincolnshire	—	2	—	8	153	1	3	—	2	—
London	5	17	3	5	375	27	30	29	12	23
Middlesex	—	3	—	5	56	6	8	8	6	—
Norfolk	—	2	—	1	113	1	—	3	2	—
Northamptonshire	—	2	—	3	65	1	3	1	1	—
Northumberland	—	3	—	—	105	1	4	2	1	2
Nottinghamshire	—	3	—	—	91	4	—	2	3	—
Oxfordshire	—	2	—	1	34	—	1	1	1	—
Rutland	—	—	—	—	13	2	—	—	—	—
Shropshire	—	3	—	1	47	2	2	2	2	—
Somerset	—	5	—	4	175	1	3	2	5	—
Staffordshire	—	18	—	4	161	8	3	3	9	3
Suffolk	—	3	—	2	151	—	2	—	2	—
Surrey	—	9	—	2	118	4	4	5	7	—
Sussex	1	7	1	4	44	1	1	—	4	—
Warwickshire	—	16	1	5	127	7	3	5	8	2
Westmorland	—	1	—	2	25	—	1	—	1	—
Wiltshire	—	4	—	2	123	1	2	1	2	1
Worcestershire	—	9	—	4	60	2	1	2	4	—
Yorkshire East	1	3	—	1	19	1	3	4	2	2
Yorkshire North	—	1	1	—	54	1	—	1	1	—
Yorkshire West	4	24	4	2	426	13	19	11	16	2
England	22	225	21	91	5,372	137	186	115	166	44

TABLE 17—VOCATIONAL AND TECHNICAL EDUCATION (AIDED INSTITUTIONS) BY GEOGRAPHICAL COUNTIES, 1935-6

GEOGRAPHICAL COUNTRIES	POPULATION, 8-13 YEARS, IN 1931		FUTILE 13-18 YEARS		STUDENTS 18 YEARS AND OVER		PERCENT AGE OF 2 + + TO ONLY	PERCENT- AGE OF 2 + + TO ONLY
	TOTAL	(2)	FULL TIME	PART TIME	FULL TIME	PART TIME		
<i>Bedfordshire</i>			(4)	(5)	(6)	(7)	(8)	(9)
Boys	3,463	5,694	2	1,016	—	737	11.1	17.9
Girls	3,244	5,376	2	400	—	690	4.7	7.5
Total	6,707	11,070	4	1,416	—	1,427	8.0	12.9
<i>Berkshire</i>								
Boys	5,989	6,847	3	1,159	6	759	9.0	16.9
Girls	5,923	6,587	10	780	33	990	6.3	11.8
Total	11,912	13,434	13	1,939	39	1,749	7.7	14.5
<i>Buckinghamshire</i>								
Boys	5,918	5,116	272	1,240	1	968	13.7	29.5
Girls	5,781	4,929	149	716	3	1,747	8.1	17.5
Total	11,699	10,045	421	1,956	4	2,715	10.9	23.8
<i>Cambridgeshire and Isle of Ely</i>								
Boys	4,667	4,242	2	969	3	911	10.9	22.9
Girls	4,431	4,083	7	649	8	1,470	7.7	16.0
Total	9,098	8,325	9	1,618	11	2,381	9.4	19.5
<i>Cheshire</i>								
Boys	8,789	37,041	27	6,815	15	3,143	14.9	18.5
Girls	8,246	36,212	33	3,852	53	3,966	8.7	10.7
Total	17,035	73,253	60	10,667	68	7,139	11.9	14.7
<i>Cornwall</i>								
Boys	7,351	5,525	6	1,147	67	687	9.0	20.9
Girls	7,156	5,530	5	334	11	519	2.7	6.1
Total	14,507	11,055	11	1,481	78	1,306	5.9	13.4
<i>Cumberland</i>								
Boys	4,319	8,690	186	2,424	5	3,872	20.1	30.0
Girls	4,104	8,318	4	1,911	3	5,519	15.4	44.9
Total	8,423	17,008	190	4,335	8	9,391	17.8	26.6

<i>Derbyshire</i>						
Boys	21,062	14,677	27	6,852	13	4,345
Girls	20,530	14,061	88	3,708	19	5,278
Total	41,592	28,738	115	10,560	32	9,623
<i>Devonshire</i>						
Boys	19,659	9,575	389	3,556	133	2,757
Girls	19,439	9,180	80	1,988	46	3,964
Total	39,098	18,755	469	5,544	179	6,721
<i>Dorsetshire</i>						
Boys	5,287	4,475	52	563	2	202
Girls	5,053	4,387	3	290	2	332
Total	10,340	8,862	55	853	4	534
<i>Durham</i>						
Boys	58,582	22,918	260	12,332	112	5,938
Girls	57,576	22,259	54	5,439	36	9,679
Total	116,158	45,177	314	17,771	148	15,617
<i>Essex</i>						
Boys	68,938	12,751	1,434	10,220	48	7,472
Girls	66,858	12,104	641	7,833	42	7,191
Total	135,796	24,855	2,075	18,053	90	14,663
<i>Gloucestershire</i>						
Boys	24,041	9,976	244	6,399	92	5,137
Girls	23,399	9,846	141	4,225	68	6,581
Total	47,440	19,822	385	10,624	160	11,708
<i>Hampshire and Isle of Wight</i>						
Boys	33,973	12,446	544	4,377	189	3,760
Girls	33,090	11,871	262	2,422	173	4,053
Total	67,063	24,317	806	6,799	362	7,813
<i>Herefordshire</i>						
Boys	1,793	3,258	3	171	1	149
Girls	1,795	3,145	7	84	3	187
Total	3,518	6,403	10	255	4	336
<i>Hertfordshire</i>						
Boys	11,549	4,942	129	2,320	2	1,617
Girls	11,056	4,807	102	1,720	16	1,625
Total	22,605	9,749	231	4,040	18	3,242
<i>Huntingdonshire</i>						
Boys	1,129	1,433	—	—	—	—
Girls	1,053	1,316	—	—	—	—
Total	2,182	2,749	—	—	—	—

TABLE 17—continued

GEOGRAPHICAL COUNTIES	POPULATION 8-18 YEARS, IN 1901		PUPILS 12-18 YEARS		STUDENTS 15 YEARS AND OVER		PERCENT AGE OF 4 + 5 TO 2 + 3	PERCENT AGE OF ONLY ONE	PERCENT AGE OF 6 + 7 TO 2 + 3
	URBAN	RURAL	FULL TIME	PART-TIME	FULL TIME	PART TIME			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Kent</i>									
Boys	37,633	15,629	1,522	7,404	120	6,351	16.7	28.7	12.1
Girls	36,828	14,668	847	4,470	92	5,666	10.3	14.4	11.2
Total	74,461	30,297	2,369	11,874	212	12,017	13.6	19.1	11.7
<i>Lancashire</i>									
Boys	205,485	10,407	2,829	55,025	456	33,495	26.8	28.1	15.7
Girls	204,239	9,968	1,077	28,274	296	38,093	13.6	14.4	17.9
Total	409,724	20,375	3,906	83,299	752	71,588	20.3	21.3	16.8
<i>Leicestershire</i>									
Boys	14,572	8,043	531	5,431	278	4,251	26.4	40.8	20.0
Girls	14,454	7,806	181	3,857	52	5,608	18.5	28.5	25.3
Total	29,026	15,849	712	9,288	330	9,854	22.4	34.8	22.7
<i>Lincolnshire (all parts)</i>									
Boys	16,590	11,921	10	2,802	8	2,030	9.9	16.9	7.1
Girls	16,519	11,526	4	1,959	12	2,442	7.0	11.9	8.8
Total	33,109	23,447	14	4,761	20	4,472	9.4	14.4	7.9
<i>London</i>									
Boys	175,085	—	4,203	47,310	1,807	70,738	29.4	29.4	41.4
Girls	171,917	—	2,835	36,980	1,133	69,239	22.0	22.0	40.9
Total	347,002	—	7,040	84,290	2,940	139,977	25.7	25.7	41.2
<i>Middlesex</i>									
Boys	63,011	1,795	1,406	8,346	54	8,132	15.0	15.5	21.6
Girls	62,181	1,782	779	6,955	116	8,831	12.1	12.8	14.0
Total	125,192	3,577	2,185	15,301	170	16,963	13.6	14.2	13.5
<i>Norfolk</i>									
Boys	9,436	13,304	231	1,703	9	1,387	8.5	20.5	6.1
Girls	9,579	12,244	77	1,251	10	1,766	6.1	13.8	8.1
Total	19,015	25,548	308	2,954	19	3,153	7.3	17.1	7.2
<i>Northamptonshire and Soke of Peterborough</i>									
Boys	9,637	5,475	122	2,149	26	1,821	15.0	23.5	12.2
Girls	9,051	5,247	76	1,589	7	2,012	11.7	18.4	14.1
Total	18,688	10,722	198	3,738	33	3,833	13.4	21.0	13.1

Northumberland									
Boys	32,736	4,756	602	6,037	120	3,605	17 9	22 9	10 0
Girls	31,739	4,577	492	2,246	39	3,803	6 2	7 9	3
Total	64,475	9,333	606	8,283	159	7,408	12 1	13 8	11 1
Nottinghamshire									
Boys	24,264	8,295	110	7,190	21	4,682	22 3	30 0	14 4
Girls	23,720	83	83	4,971	18	6,591	16 0	21 3	20 9
Total	48,084	16,204	193	12,161	39	11,273	19 2	25 7	17 7
Oxfordshire									
Boys	4,294	4,217	55	1,233	3	978	15 1	30 1	11 5
Girls	4,176	3,978	63	905	5	1,612	11 9	23 1	19 7
Total	8,470	8,195	118	2,138	8	2,590	13 5	25 4	15 5
Rutland									
Boys	132	606	—	17	—	37	2 3	12 8	5 0
Girls	117	608	—	2	—	35	0 3	1 7	4 8
Total	249	1,214	—	19	—	72	1 4	7 6	4 9
Shropshire									
Boys	5,079	6,094	146	920	15	764	9 5	21 0	6 9
Girls	5,251	5,770	148	734	16	1,242	8 0	16 8	11 4
Total	10,330	11,864	294	1,654	31	2,006	8 8	18 9	9 2
Somerset									
Boys	9,198	10,033	112	1,673	9	1,059	9 3	19 4	5 8
Girls	8,962	9,687	124	1,184	22	1,692	7 0	14 5	9 2
Total	18,160	19,720	236	2,857	31	2,751	8 2	17 0	7 3
Staffordshire									
Boys	60,520	10,206	548	11,175	94	7,771	16 6	19 3	11 1
Girls	59,695	9,733	154	7,196	13	6,254	10 6	12 3	9 0
Total	120,215	19,939	702	18,371	107	14,025	13 6	15 8	10 1
Suffolk									
Boys	6,594	8,927	15	1,415	5	1,357	9 2	21 7	8 8
Girls	6,604	8,387	19	829	4	1,432	6 3	12 8	9 6
Total	13,198	17,314	34	2,244	9	2,789	7 8	17 1	9 1
Surrey									
Boys	37,677	7,230	1,004	5,681	59	5,147	14 9	17 7	11 6
Girls	36,692	6,668	455	4,129	158	6,997	10 6	12 5	16 5
Total	74,369	13,898	1,459	9,810	217	12,144	12 8	15 1	14 0
Sussex									
Boys	19,227	10,275	119	2,434	173	1,642	8 6	13 2	6 1
Girls	18,723	9,665	113	1,673	140	2,757	6 3	9 5	10 2
Total	37,950	19,940	232	4,107	313	4,399	11 4	11 4	8 1

TABLE 17—continued

GEOGRAPHICAL COUNTRIES	POPULATION, 8-13 YEARS, IN 1931		PUPILS 13-18 YEARS		STUDENTS 18 YEARS AND OVER		PERCENT AGE OF 14 TO 20 ONLY	PERCENT AGE OF 21 TO 25	PERCENT AGE OF 26 TO 30
	URBAN	RURAL	FULL TIME	PART TIME	FULL TIME	PART TIME			
SEXES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Warrickshire</i>									
Boys	59,728	8,818	1,136	15,943	238	13,856	24.9	28.6	20.5
Girls	58,841	8,399	620	11,266	127	12,537	17.7	20.2	18.9
Total	118,569	17,217	1,756	27,209	365	26,393	21.4	24.4	19.7
<i>Wiltshire</i>									
Boys	5,397	7,464	5	1,814	3	1,010	14.1	33.7	7.9
Girls	5,707	6,631	27	999	3	1,198	8.3	18.0	9.8
Total	11,104	14,095	32	2,813	6	2,208	11.2	25.6	8.8
<i>Westmorland</i>									
Boys	1,022	1,576	—	238	—	125	9.2	23.3	4.8
Girls	1,014	1,551	—	178	—	339	6.9	17.5	32.8
Total	2,036	3,127	—	416	—	964	8.0	20.4	18.5
<i>Worcestershire</i>									
Boys	14,313	4,459	144	2,770	6	1,662	15.5	20.4	8.9
Girls	13,971	4,330	121	1,312	5	1,879	7.8	12.5	10.3
Total	28,284	8,789	265	4,082	11	3,541	11.7	15.4	9.6
<i>Yorkshire East and North</i>									
Boys	33,683	10,492	1,036	7,878	114	6,381	20.2	26.4	14.7
Girls	33,528	10,236	248	6,436	41	7,879	15.2	19.9	18.1
Total	67,211	20,728	1,284	14,314	155	14,260	17.7	23.2	16.4
<i>Yorkshire West</i>									
Boys	129,630	22,209	1,982	33,392	619	30,823	23.3	27.3	20.7
Girls	125,590	21,660	969	20,542	203	32,753	14.6	17.1	22.4
Total	255,220	43,869	2,951	53,934	822	63,576	19.0	22.3	21.9
<i>England</i>									
Boys	1,294,211	328,578	21,450	291,540	4,928	251,548	19.3	24.2	15.8
Girls	1,265,005	314,891	10,652	186,388	2,328	276,043	12.4	15.6	17.6
Total	2,559,216	643,469	32,102	477,928	7,256	527,591	15.9	20.0	16.6

each In the case of such counties as Herefordshire, Huntingdonshire, Rutland and Westmorland, this is only to be expected, owing to their agricultural character and small population But Bedfordshire has 11,000 adolescents (13-18 years) in urban centres, Berkshire 14,000, Lincolnshire 33,000, and yet not a single junior technical school Since, however, these schools not only prepare for specific technical vocations, which might be unnecessary in these particular counties, but also give a general technical education for boys, domestic training for girls and also commercial education for both sexes, the absence of these schools can be ascribed to a defect in organisation Cheshire, with 73,000 adolescents in industrial centres, has only one school of this group (a nautical school, by the way), whilst Somerset, with 18,000 adolescents in urban centres, has two schools

The same can be said about the senior full-time courses of a technical or commercial character It is true that the Board of Education, by the publication of many valuable pamphlets, attempts to stimulate the establishment of full-time technical institutions throughout the country, but it would appear that persuasion by argument, unaccompanied by an equalising grant system, fails to produce the desired result Out of 121 urban centres, with a population of over 50,000, 62 have made no provision for junior technical schools

In the field of part-time evening instruction, we also notice a great regional variation Even if we deduct the rural population and calculate the percentages in respect of urban population only, we have a variation from 10 per cent to 40 per cent for boys, and from 5 per cent to 28 per cent for girls Selecting the counties which have percentages higher than the average for England, we get the following list Buckinghamshire, Cumberland, Derbyshire, Gloucestershire, Leicestershire, London, Nottinghamshire, Oxfordshire, Warwickshire, Wiltshire and the three Ridings of Yorkshire The list is very heterogeneous Side by side with industrial areas we find largely rural counties such as Buckinghamshire, Leicestershire, Oxfordshire and Wiltshire On the other hand, some highly industrialised counties, such as Durham, Northumberland or Staffordshire, have comparatively low percentages

Another feature which is significant is the difference between provision for boys and girls In all areas, without exception, percentages for boys 13-18 are considerably higher than those for girls In Bedfordshire, Cornwall, Devonshire, Durham, Lancashire and Northumberland, the provision for boys (13-18 years) is twice as great, or even more, than for girls (13-18 years) In classes for adults (18 and over) we notice just the opposite relation Women show higher percentages in all counties, except Cornwall, Essex, Kent, London, Staffordshire and Warwickshire These unaccountable variations of provision of technical education show quite clearly that there is a certain lack of co-ordination of effort between the local authorities and the central government

In 1936, it was officially recognised by the Board of Education, and a special Conference was convened by the President of the Board to secure an effective co-operation between local authorities. One of the recommendations of the Conference was the establishment of regional associations of authorities for the co-ordination of technical education within the region. The first regional organisation was established in 1928 in Yorkshire—the Yorkshire Council for Further Education—which includes 13 out of 16 local authorities for higher education in the three Ridings. In 1935, the West Midland Regional Advisory Council was established, including the representatives of Staffordshire, Worcestershire, Warwickshire and the county boroughs of Coventry, Birmingham, Dudley, Smethwick, Walsall, West Bromwich, Wolverhampton and Worcester. In 1937, the third Regional Council in the Manchester area was started. It includes the representatives of Cheshire, Derbyshire, Lancashire and the West Riding, and the county boroughs of Bolton, Bury, Manchester, Oldham, Preston, Rochdale, Salford, Stockport and Warrington. Steps have also been taken by the authorities concerned to establish a similar body for the Merseyside area. Undoubtedly this new step in national policy will lead to a better distribution of technical schools and institutions within the regions mentioned, but unless the central government introduces an equalising financial policy, the uneven provision of technical education between the regions will remain.

N HANS

CHAPTER FOUR

AGRICULTURAL EDUCATION¹

Historical Survey

IN this survey we exclude the higher institutions and universities. State intervention in agricultural education is of quite recent origin. The Royal Veterinary College was aided since 1795 with a grant of £1,500 per annum, but the grant was discontinued in 1815. The first agricultural institution in this country, the Royal College at Cuernet, was founded in 1845 as an independent institution. The first step in the grant system was not made until 1875, when the Science and Art Department added "principles of agriculture" to the list of subjects in which grants could be earned under the Department. The next important step was the appointment of the Departmental Committee in 1887, which recommended the establishment of a centralised system of institutions maintained by the State. The Board of Agriculture Act of 1889 transferred the control from the Agricultural Department of the Privy Council to a new central authority with powers of inspection and grants in aid of agricultural education. The money voted by Parliament, however, was insufficient for a national system, and the few thousand pounds allowed were annually distributed, mostly among higher institutions. The so-called "lower" forms of agricultural education were under the local authorities, which could, if they so wished, use part of the Residue Grant (Whisky Money) for that purpose. With the reform of 1902, secondary agricultural education was merged in general "higher education" administered by the new local education authorities. The average expenditure of local authorities on agricultural education during the period 1907-1910 was £74,000, of which £12,000 came from Parliamentary grants, made by the Board of Education, £29,500 from the Residue Grant and £32,000 from rates. Considering that agriculture was the largest single industry in the country, the amount was not great. The report of the Departmental Committee of 1908 recommended a large increase of State aid. This additional provision was made possible by the Development and Road Improvements Fund Act of 1909, under which agricultural education profited. The grants from this fund became available after the dual control of the Board of Education and the Board of Agriculture was ended in 1912 by the concordat, according to which all forms of agricultural education, intended for persons over the age of 16 years, were transferred to

¹ We are indebted to the Ministry of Agriculture and Fisheries for the use of some unpublished statistics, but the Ministry is in no way responsible for any conclusions drawn in this survey.

the Board of Agriculture. The grants were allotted to local authorities in ratio to their expenditure over a period of years. The grant varied from 50 to 75 per cent of the new expenditure, i.e. the difference of actual expenditure and the average for three years, ending March 31st, 1912. After the War, the grant was fixed as 80 per cent of salaries of agricultural organisers and horticultural superintendents, two-thirds of all other maintenance expenditure and 75 per cent of capital expenditure, although the Reconstruction Committee recommended that the whole charge for agricultural education should be borne by the State. As the provision of agricultural education was not a statutory obligation on the part of local authorities, not all availed themselves of the opportunity of earning a grant. From October 1st, 1931, the existing ratios were replaced by a flat rate of 60 per cent of the net recognised expenditure. The Ministry of Agriculture aimed quite definitely at establishing a provincial system of institutions evenly distributed throughout the country, but the defects of educational legislation and financial regulations produced the opposite results. The belief in local self-government and initiative guided the policy of the Ministry, as that of the Board of Education, but in the absence of statutory duties, many local authorities neglected agricultural education in spite of generous grants. On the other hand, the financial policy of the country did not consider the factors of "need" and "ability" in the field of agricultural education as in other branches of higher education. By the Ministry of Agriculture and Fisheries Act, 1919, the Board was constituted as a Ministry, and a change in the local administration was made possible. The Act set up agricultural committees for each county, which took over agricultural education from the education committees. With the exception of the three Ridings of Yorkshire, which have entrusted the care of agricultural education to a joint body—the Yorkshire Council for Agricultural Education—all counties have entrusted the charge of agricultural education to sub-committees of the county councils.

The table on pages 185-9 show the regional variation both in full-time and part-time agricultural education.

Analysis of Table 18

In order to calculate the "need" of an area in agricultural education, the best way would be to take the agricultural population of the age-group 14-21. Unfortunately, such statistics are not available. The census gives us by sexes the rural population of these ages, which includes in some counties very large mining communities and some other groups not occupied in agriculture. The occupational statistics, on the other hand, give only those who are directly occupied in agriculture. The majority of girls and young women and many boys were thus excluded. Female agricultural population includes, in fact, not only those women who are "inde-

TABLE 18—AGRICULTURAL EDUCATION, 1936-7¹

GEOGRAPHICAL COUNTIES	RURAL POPULATION		OCCUPIED IN AGRICULTURE	NUMBER OF STUDENTS IN					PERCENTAGES OF 8 TO 9	PERCENTAGES OF 8 TO 10	
	AGES 14-21 CENSUS 1931	(2)		(3)	FARM INSTITUTES	ORGANIZED DAY CLASSES	EVENING CLASSES	ALL OTHER COURSES			TOTAL STUDENTS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
<i>Bedfordshire</i>											
Males	4,790	1,591	—	—	—	—	9	9	0.2	0.6	
Females	3,952	44	—	—	—	—	—	—	0	0	
Total	8,742	1,635	—	—	—	—	9	9	0.1	0.6	
<i>Berkshire</i>											
Males	7,982	2,398	—	—	130	105	235	235	3.0	10.2	
Females	7,706	84	—	10	6	—	16	16	0.2	19.0	
Total	15,778	2,382	—	10	136	105	251	251	1.6	10.5	
<i>Buckinghamshire</i>											
Males	10,490	1,818	—	—	—	24	24	24	0.2	1.3	
Females	7,729	116	—	—	—	6	6	6	0.1	5.2	
Total	18,219	1,934	—	—	—	30	30	30	0.2	1.6	
<i>Cambridgeshire (including Isle of Ely)</i>											
Males	6,271	3,955	—	32	113	43	188	188	3.0	4.7	
Females	5,445	473	—	55	6	—	61	61	1.1	12.9	
Total	11,716	4,428	—	87	119	43	249	249	2.1	5.6	
<i>Cheshire</i>											
Males	12,032	5,128	59	—	—	25	84	84	0.7	1.6	
Females	12,145	450	30	—	—	—	30	30	0.2	6.7	
Total	24,177	5,578	89	—	—	—	114	114	0.5	2.0	
<i>Cornwall</i>											
Males	9,718	3,968	—	69	415	97	581	581	5.9	14.6	
Females	8,877	230	—	124	36	160	320	320	3.6	139.1	
Total	18,595	4,198	—	193	451	257	901	901	4.8	21.5	
<i>Cumberland</i>											
Males	5,886	3,463	43	—	—	—	43	43	0.7	1.2	
Females	5,227	236	21	—	—	—	21	21	0.4	9.0	
Total	11,113	3,699	64	—	—	—	64	64	0.6	1.7	

¹ Not including special courses run by universities and colleges. Many farm institutes have students from adjacent counties which are included.

TABLE 18—continued

GEOGRAPHICAL COUNTIES	RURAL POPULATION	OCCUPIED IN AGRICULTURE	NUMBER OF STUDENTS IN						PERCENTAGES OF 5 TO 2	PERCENTAGES OF 5 TO 2
			FARM INSTITUTES	ORGANISED DAY COURSES	EVENING CLASSES	ALL OTHER COURSES	TOTAL STUDENTS			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(10)		
AGES 14-21 CENSUS 1931										
FULL-TIME										
<i>Derbyshire</i>										
Males	19,035	3,298	—	81	16	51	148	0.8	4.5	
Females	16,698	169	—	38	—	—	38	0.2	22.5	
Total	35,733	3,467	—	119	16	51	186	0.5	5.4	
<i>Devonshire</i>										
Males	11,922	5,875	—	910	352	815	2,077	17.5	35.3	
Females	11,531	343	—	153	143	91	387	3.4	112.8	
Total	23,453	6,218	—	1,063	495	906	2,464	10.5	39.6	
<i>Dorsetshire</i>										
Males	6,326	2,273	—	—	80	9	89	1.4	3.9	
Females	5,072	181	—	11	34	—	45	0.9	24.8	
Total	11,398	2,454	—	11	114	9	134	1.2	5.5	
<i>Durham</i>										
Males	27,657	2,045	19	—	45	—	64	0.2	3.2	
Females	22,719	463	35	11	—	—	46	0.2	10.0	
Total	50,376	2,508	54	11	45	—	110	0.2	4.4	
<i>Essex</i>										
Males	15,520	5,421	65	139	284	23	511	3.3	9.4	
Females	14,224	506	28	61	33	—	122	0.9	24.1	
Total	29,744	5,927	93	200	317	23	633	2.1	10.7	
<i>Gloucestershire</i>										
Males	13,456	3,398	—	25	670	73	768	5.7	22.6	
Females	11,942	96	—	80	—	—	80	0.7	83.3	
Total	25,398	3,494	—	105	670	73	848	3.3	24.3	
<i>Hampshire (including Isle of Wight)</i>										
Males	18,132	4,721	67	—	15	38	120	0.6	2.5	
Females	14,927	219	22	—	5	—	27	0.2	12.3	
Total	33,059	4,940	89	—	20	38	147	0.4	3.0	

<i>Hertfordshire</i>						
Males	4,091	2,206	—	35	—	14
Females	3,821	68	—	124	—	32
Total	7,912	2,274	—	159	—	182·3
<i>Hertfordshire</i>						
Males	7,266	2,653	69	—	47	20
Females	6,890	186	2	—	—	0
Total	14,156	2,839	71	—	47	20
<i>Huntingdonshire</i>						
Males	1,777	1,188	—	—	—	0
Females	1,483	59	—	—	—	0
Total	3,260	1,247	—	—	—	0
<i>Kent</i>						
Males	19,712	6,222	59	—	78	22
Females	17,884	496	18	—	13	62
Total	37,596	6,718	77	—	91	25
<i>Lancashire</i>						
Males	15,227	8,862	62	—	180	73
Females	14,833	865	59	—	59	68
Total	30,060	9,727	121	—	180	71
<i>Leicestershire</i>						
Males	10,379	1,992	—	—	9	0·5
Females	10,463	76	—	—	—	0
Total	20,842	2,068	—	—	9	0·4
<i>Lincolnshire</i>						
Males	16,583	10,393	—	35	113	17
Females	13,632	1,522	—	—	—	0
Total	30,215	11,915	—	35	113	17
<i>Middlesex</i>						
Males	2,207	1,628	—	—	2	15
Females	2,786	456	—	—	—	17·2
Total	4,993	1,984	—	—	2	0·4
<i>Norfolk</i>						
Males	15,117	7,566	—	82	—	11
Females	12,954	859	—	12	—	11
Total	28,071	7,925	—	94	—	34
<i>Northamptonshire (including Soke of Peterborough)</i>						
Males	7,105	2,277	53	—	—	0·8
Females	6,735	77	18	—	—	0·3
Total	13,840	2,354	71	—	—	0·6

TABLE 18—continued

GEOGRAPHICAL COUNTRIES	RURAL POPULATION		OCCUPIED IN AGRICULTURE	NUMBER OF STUDENTS IN							PERCENTAGES OF 8 TO 2	PERCENTAGES OF 8 TO 1			
	(1)	(2)		AGES 14-21, CENSUS 1931	(3)	FARM INSTITUTES	FULL-TIME			PART-TIME			TOTAL STUDENTS		
							(4)	(5)	(6)	(7)				(8)	(9)
<i>Northumberland</i>															
	Males	6,429	2,738	—	—	—	—	—	61	61	1.0	2.2			
	Females	6,340	614	—	—	—	—	—	131	131	2.1	21.6			
	Total	12,769	3,352	—	—	—	—	—	192	192	1.5	5.6			
<i>Nottinghamshire</i>															
	Males	10,434	2,614	—	434	304	143	881	143	881	8.4	33.8			
	Females	9,883	143	—	68	185	11	264	11	264	2.7	18.4			
	Total	20,317	2,757	—	502	489	154	1,145	154	1,145	5.6	41.5			
<i>Oxfordshire</i>															
	Males	5,458	1,989	—	120	302	13	435	13	435	7.9	21.9			
	Females	4,748	36	—	—	65	—	65	—	65	1.4	18.0			
	Total	10,206	2,025	—	120	367	13	500	13	500	5.0	24.7			
<i>Shropshire</i>															
	Males	7,965	3,603	—	—	52	53	105	53	105	1.3	3.0			
	Females	6,987	231	—	49	44	—	93	—	93	1.3	4.0			
	Total	14,952	3,834	—	49	96	53	198	53	198	1.3	5.2			
<i>Somerset</i>															
	Males	12,705	4,705	38	—	—	—	—	—	—	—	—			
	Females	12,104	208	40	—	—	—	—	—	—	—	—			
	Total	24,809	4,913	78	818	364	—	1,260	—	1,260	3.1	25.7			
<i>Staffordshire</i>															
	Males	13,621	4,233	66	—	—	45	111	45	111	0.8	2.6			
	Females	11,838	215	29	—	—	—	29	—	29	0.2	13.5			
	Total	25,449	4,438	95	—	—	45	140	45	140	0.5	3.2			
<i>Suffolk</i>															
	Males	11,680	5,447	—	—	—	20	20	20	20	0.1	0.4			
	Females	8,764	105	—	18	—	—	18	—	18	0.2	17.1			
	Total	20,444	5,552	—	18	—	20	38	20	38	0.1	0.7			

COUNTY BOROUGH AND LONDON EVENING COURSES									
Males—2,095									
Females—259									
TOTAL COUNTIES									
<i>Surrey</i>									
Males	3,472	—	28	165	—	193	18	53	
Females	162	—	3	2	—	5	00	31	
Total	3,634	—	31	167	—	198	09	55	
<i>Sussex</i>									
Males	4,921	43	—	126	—	169	13	34	
Females	12,410	43	19	21	—	40	03	176	
Total	5,148	43	19	147	—	209	08	41	
<i>Warwickshire</i>									
Males	11,357	—	50	21	4	75	07	27	
Females	10,657	—	8	11	—	14	01	132	
Total	22,014	—	58	32	4	89	04	31	
<i>Westmorland</i>									
Males	1,263	3	—	—	—	5	02	04	
Females	2,297	7	18	—	—	25	11	318	
Total	4,496	12	18	—	—	30	07	22	
<i>Wiltshire</i>									
Males	3,057	—	29	25	14	68	06	22	
Females	7,561	—	29	2	—	31	04	484	
Total	17,753	—	58	27	14	99	05	32	
<i>Worcestershire</i>									
Males	6,029	—	66	—	45	111	18	42	
Females	5,435	—	71	—	—	71	13	563	
Total	11,464	—	137	—	45	182	16	66	
<i>Yorkshire</i>									
Males	48,027	18	19	584	106	727	16	44	
Females	37,795	—	179	37	21	237	06	344	
Total	83,822	18	198	621	137	964	11	55	
TOTAL COUNTIES									
Males	437,818	666	2,154	4,494	2,210	9,454	22	61	
Females	387,507	309	1,136	632	427	2,504	07	282	
Total	825,325	975	4,108 ¹	5,420 ¹	2,637	13,140 ²	16	80	
Total—2,354									

1 818 and 367 in Somerset undistributed by sea

pendently occupied" in agriculture, but also those who may be said to be "co-operatively interested." To every man directly occupied in agriculture corresponds one woman (wife, mother, sister or daughter) who is the centre of a rural home and who is contributing to agricultural production either directly as a wife of a farmer or smallholder, or indirectly as a housekeeper. Therefore, the number of girls in need of some kind of agricultural education should be considered to be much nearer to that of boys than the table shows. The census of 1931 shows only 55,683 women and girls "occupied in agriculture," whereas the figures of the Ministry of Agriculture for 1931 enumerate 93,107 female agricultural workers (64,409 regular and 28,698 casual), to which about 18,000 independent women farmers should be added, all of whom were directly occupied in agriculture. Unfortunately, we can use only the census figures in our column 3, as the Ministry figures do not divide females by ages. It is evident that the number of girls must be at least doubled. In column 2 we give, therefore, the rural population as a potential limit of agricultural population. Column 4 shows the attendance at the farm institutes, the figures denoting students at full-time courses from four weeks to two years in duration. All other courses are part-time, given at various centres, including also part-time courses at the farm institutes. The students include also adult farmers, and evidently, in some instances, there is duplication. The percentages given in columns 9 and 10 must be taken, therefore, only as indices to show the regional variation. In the case of females, the percentages of column 10 are given for the completeness of the table, and do not, in fact, show anything except indication of regional variation, as the number of females occupied in agriculture is evidently underestimated in the census. However, comparing the percentages for males, we see a great difference as between areas, ranging from 35.3 per cent in Devonshire to 0 per cent in Huntingdonshire. We notice, especially, that the agricultural East (Cambridgeshire, Huntingdonshire, Lincolnshire, Rutland, Norfolk and Suffolk) having an agricultural male population (14.21) of 30,000 (one-fifth of England) has no county farm institute. There is an independent agricultural institute at Bury St Edmunds, Suffolk, which is not grant-aided, and is not shown, therefore, in the table. The percentages for this agricultural region are extremely low (1.5 per cent of agricultural population of the region). The second agricultural region—South-West (Cornwall, Devonshire, Dorsetshire, Somerset and Wiltshire) is in a comparatively better position, Devonshire having the highest percentages in the country. What is really astonishing is that such industrial counties as Cheshire, Lancashire, Durham and Staffordshire have each a farm institute, whereas many agricultural counties have none. The foundation of a farm institute entirely depends on local initiative. We must, of course, add that our comparative figures do not distinguish the quality of instruction, and lump together the farm institutes and part-time courses.

TABLE 19—LOCAL EXPENDITURE ON AGRICULTURAL EDUCATION IN 1936-7¹

REGAINING COUNTY	AGRICUL- TURAL POP- ULATION 14-21 CLASSES 1931	LOCAL EX- PENDITURE ON TAXES AND RATES	PERCENTAGE OF AGRICULTURAL POPU- LATION 14-21 YEARS			PERCENTAGE OF STUDENTS TO AGRICUL- TURAL POPU- LATION 11-21
			GRANTEE 60%	RATEPAYER 10%	TOTAL 100%	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		£	s d	s d	s d	Per cent
Bedfordshire	1,635	2,367	17 3	11 7	28 10	0.6
Berkshire	2,382	5,554	28 0	18 7	46 7	10.5
Buckinghamshire	1,934	5,600	34 8	23 1	57 9	1.6
Cambridgeshire and Isle of Ely	4,428	5,476	14 9	9 11	24 8	5.6
Cheshire	5,578	11,767	25 4	16 11	42 3	2.0
Cornwall	4,198	8,397	24 0	16 0	40 0	21.5
Cumberland	3,699	4,458	14 6	9 8	24 2	1.7
Derbyshire	3,467	7,286	25 2	16 10	42 0	5.4
Devonshire	6,218	15,509	29 11	19 11	49 10	19.6
Dorsetshire	2,454	3,897	19 0	12 8	31 8	5.5
Durham	2,503	10,267	49 2	32 7	81 9	4.4
Essex	5,927	17,397	35 3	23 5	58 8	10.7
Gloucestershire	3,494	6,482	22 4	14 10	37 2	24.3
Hampshire	4,940	15,207	36 11	24 7	61 6	3.0
Herefordshire	2,274	2,509	13 3	8 10	22 1	8.0
Hertfordshire	2,809	12,727	54 4	36 2	90 6	5.3
Huntingdonshire	1,247	475	4 7	3 1	7 8	0
Kent	6,718	19,055	34 0	22 8	56 8	2.5
Lancashire	9,727	13,240	16 4	10 11	27 3	7.1
Leicestershire	2,068	5,162	30 0	20 0	50 0	0.4
Lincolnshire	11,915	13,287	13 5	8 11	22 4	1.5
Middlesex	1,984	4,079	24 8	16 6	41 2	13.4
Norfolk	7,925	7,775	11 9	7 10	19 7	1.2
Northamptonshire	2,354	6,451	32 10	21 11	54 9	3.0
Northumberland	3,352	4,600	16 5	11 0	27 5	5.6
Nottinghamshire	2,757	7,169	31 3	20 9	52 0	41.5
Oxfordshire	2,025	2,786	16 6	11 0	27 6	24.7
Rutland	347	903	31 2	20 10	52 0	0
Shropshire	3,834	7,680	24 1	16 0	40 1	5.2
Somerset	4,913	12,500	30 6	20 4	50 10	25.7
Staffordshire	4,438	14,629	39 7	26 5	66 0	3.2
Suffolk	5,552	5,881	12 8	6 6	21 2	0.7
Surrey	3,634	6,409	21 2	14 1	35 3	5.5
Sussex	5,148	16,513	38 1	25 10	64 2	4.1
Warwickshire	2,912	4,954	20 4	13 8	34 0	3.1
Westmorland	1,380	1,978	17 2	11 5	28 7	2.2
Wiltshire	3,121	6,916	26 7	17 8	44 3	3.2
Worcestershire	2,748	4,062	17 8	11 10	29 6	6.6
Yorkshire	17,383	25,725	17 8	11 10	29 6	5.5
English Counties	166,755	427,129	19 11	13 4	33 3	8.0
Welsh Counties	16,812	54,341	38 9	25 10	64 7	33.9
London	419	1,013	28 11	19 5	48 4	46.3
43 English County Boroughs	4,666	3,415	8 8	5 11	14 7	
4 Welsh County Boroughs	313	1,110	40 0	26 7	66 7	

¹ The total expenditure includes expenditure on adults over 21 years, but for regional comparison it can be disregarded.

Finances

As we have seen, the policy of grants followed closely the general policy of the Board of Education. It started with grants as fertilising agents of voluntary initiative, then the grants of the Science and Art Department and the Residue Grant were applied to agricultural education, finally the Ministry of Agriculture adopted the percentage system based on the expenditure of local authorities.

The Meston Committee recommended the percentage system with a substantial increase of State subsidy. The grants both for maintenance and capital outlay were given more generously, but the factors of "need" and "ability" were still ignored. The table on page 191 shows how the present system works.

Analysis of Table 19

Column 2 gives the population (both sexes) 14-21 occupied in agriculture, columns 4, 5 and 6 give the expenditure per head of population. We notice a great variation, a peculiar feature of which is that some agricultural counties receive much less than some industrial counties, and secondly, the percentage of students does not correspond to the expenditure per head. For instance, Durham expends 81s. 9d. per head of agricultural population (14-21) and only 4.4 per cent. of it attend any courses, whilst Devonshire expends 49s. 10d. per head and 39.6 per cent. of agricultural population attend courses. Hertfordshire spends 90s. 6d. per head and has 5.3 per cent. of attendance, whilst Gloucestershire spends 37s. 2d. and has 24.3 per cent. The difference is partly explained by more expensive farm institutes, absent in many counties, and also by a different proportion allotted to the expenditure on advisers and superintendents. The Ministry pays the 60 per cent. grant without any power to equalise the conditions. The result is an unequal distribution of institutions and the neglect of some of those areas which need agricultural education most. We may close this chapter by quoting Major E. Garnsey, the late head of the Educational Branch of the Ministry of Agriculture (in his unpublished survey): "It is clear that the present system of agricultural education is doing but little towards meeting the needs of the case. We are just on the fringe of the problem, and there can be no doubt that the large majority of the occupiers of agricultural land enter into the possession of their holdings without any institutional training."

N. HANS

CHAPTER FIVE

FINANCIAL POLICY OF THE STATE

A ELEMENTARY EDUCATION

Introduction

REGIONAL differences in educational opportunities, as we have seen, have many causes which are inevitable. Rural districts, owing to sparsity of population and geographical obstacles, can seldom compete with urban districts. Industrial areas, again, have different problems from the agricultural areas or commercial suburban districts. Wealthy communities often have an advantage in comparison with poor communities, and the accidental distribution of endowments still further emphasises these differences. Lastly, the attitude of various communities towards education, based mainly upon historical and religious traditions, has accentuated differences in their efforts. If the system of grants given by the central government does not take into account all these differences, the initial inequality will tend to increase.

Education, for a long time, has been recognised in all countries as a national and not a local problem. Even in this country, in spite of the historical tradition, it is accepted by all as a national service, locally administered. The acceptance, however, was not spontaneous, but is the result of long and gradual adaptation of the State policy in education to changing conditions.

The Development of State Grants

The system of grants towards education was started in 1833 with subsidies towards voluntary societies. The principle underlying those grants was based on the theory of the so-called "fertilising agents." There was no national policy, the grants being given to two religious societies who happened to own schools. In fact, the whole educational system developed from a series of accidents. Thus the causes of regional differences worked unchecked, and the resultant variation of educational provision was enormous. The first attempt to bring some order and equalisation of opportunities was made by Mr. Forster in 1870. But even his far-reaching legislation was only intended to "fill the gaps" left by voluntary agencies, and it did not aspire to establish a national system of education. His method of grants was based on average attendance, but as attendance was not compulsory, there were some communities without schools and consequently without any grants. In principle, the Act of 1870 recognised all three factors essential to a reasonable financial policy: (a) the number of children

representing the "need" or "necessity," (b) the expenditure of local communities, representing their "effort," and (c) the assessable value, representing their "ability." The application of the first factor, however, was vitiated by the absence of universal compulsory attendance, and the "need" of many communities was, therefore, neglected. The second factor was only applied as a limit to State grants, which should not exceed 50 per cent of total expenditure. The third factor of "ability" was mentioned, but had no actual application, with the exception of a few necessitous areas. The introduction of compulsory attendance by two Acts in 1876 and 1880 made the "average attendance" factor to represent the real need of the area. Thus one condition of sound financial policy was fulfilled, each of the areas received a grant proportionate to the number of children. But the system of payments by results disturbed greatly the application of that principle. The Acts of 1876 and 1890 introduced special grants to sparsely populated districts which, however, did not bring in a new principle, since it was an extension of the factor of "necessity" and was not based on "ability." The two Acts of 1897, on the other hand, quite clearly considered the "ability" of necessitous voluntary and Board schools in their supplementary grants. But with these few exceptions, the system of grants was still mainly guided by the policy of "fertilising agents." As Sir Lewis Selby-Bigge said, "Until 1902 there was a system of grants, but no system of finance." The present system dates back to the Education Act of 1902.

Grant System for Elementary Education

The Act of 1902 tried to simplify the complicated system of grants, although the additional grants for special subjects and other minor grants were left unchanged. The two main grants, however (the Principal Grant and the Aid Grant), were based on the recommendations of the Royal Commission on Local Taxation, which published its Report in 1901. The Final Report (Minority Report), page 133, says

"We think that the main considerations to which a system of allocation should have regard are 'necessity' and 'ability' combined—that is, the real requirements of a locality and its ability to meet those requirements. As regards 'ability,' it must be remembered that the same scale of expenditure may impose no undue burden in a district which, having a high rateable value, is rich, but it may be very onerous in a district which, having a low rateable value, is needy."

"The first thing that has to be established is the amount which it is *necessary* to expend on national services locally administered, and the best means of ascertaining that amount is to take the minimum sum per head of the population for which the service can, under the most favourable conditions, be performed. This minimum would represent the *standard expenditure*, and the amount by which the actual expenditure exceeds it would represent

the *excess expenditure*. The contribution of the State should be in accordance with *ability* by deducting a small *standard rate* from the total minimum standard expenditure. The remainder of the grant would be allocated in some fixed proportion to the *excess expenditure*."

This recommendation includes all the factors, necessity, ability and effort. The Principal Grant of 1902 represented the first factor as standard expenditure and equalled 21s or 22s for each pupil (16s or 17s for infants) and was given irrespective of ability or total expenditure. The only condition was the efficiency of instruction certified by His Majesty's Inspectors. The Aid Grant of 1902 represented the second factor of ability and was partly based on the produce of a 1d rate per scholar. No locality, however, was entitled to the whole Aid Grant unless it had raised locally a sum equal to the produce of a 3d rate, in deficient areas deductions were made proportionally to the difference between the required sum (3d rate) and the actual rate. This condition represented the third factor of "effort". Besides these two main grants, there were additional grants for specific purposes. The Fee Grant introduced in 1891 as compensation for the abolition of fees was, in fact, a part of the Principal Grant with which it was merged later. The Special Grant to sparsely populated areas (1876 and 1890), although continued, hardly influenced the total expenditure. Grants for special subjects and higher grade schools were based on the third factor of effort. Thus the system of grants of 1902 brought into play all three factors. The formulas, however, were defectively devised and the purpose of equalisation was not attained. We give in Table 20 a selection of local authorities (10 counties, 10 county boroughs and 10 Part III authorities) to illustrate the practical application of the system.

Analysis of Table 20

The second column represents the "ability" of the local authority, and the fifth its "effort". We see that the percentage of State grants did not vary in exact proportion to ability and effort. A rich authority could receive much more proportionally than a poor one if the amount of Principal Grant (and Fee Grant) was the deciding factor in total expenditure. For instance, Bournemouth and Bexhill, both very rich communities, by limiting their local "efforts" to the possible minimum, managed to receive 66.3 per cent and 59.3 per cent of their total expenditure from grants. Bournemouth levied only 2.9d rate, whilst poorer communities had to levy up to 26d and still received proportionally less. Finchley received only 35.5 per cent grant, in spite of an 18.2d rate.

Introduction of Additional Grants for Necessitous Areas

The sliding scale of the Aid Grant failed to prevent most glaring inequalities, and in 1907 the Government decided to introduce

TABLE 20—APPLICATION OF GRANT SYSTEM IN 1906 BY SELECTED LEAs

LEA	PRODUCT OF 1d RATE PER CHILD IN ATTENDANCE	TOTAL LEA EXPENDITURE FROM PUBLIC FUNDS & RATES	PERCENT AGES OF BOARD OF EDUCATION GRANTS	RATE IN 1906 TO MEET THE EXPENDITURE	TOTAL COST PER CHILD IN ATTENDANCE (PUBLIC FUNDS)
(1)	(2)	(3)	(4)	(5)	(6)
<i>Counties</i>	<i>s d</i>	<i>£</i>	<i>PERCENT AGE</i>	<i>d</i>	<i>f s d</i>
London	5 0	3,410,786	30.6	14.7	5 3 6
Surrey	5 2	192,938	46.5	8.1	3 16 5
Middlesex	3 10	97,025	54.4	8.5	3 6 6
Kent	3 6	231,509	60.9	8.0	3 3 0
Lancashire	3 2	141,311	51.5	11.4	3 3 5
Yorkshire West Riding	2 8	514,785	51.3	11.0	3 0 11
Essex	2 6	196,577	58.5	11.2	3 4 8
Nottinghamshire	2 4	121,244	70.2	8.6	2 17 10
Staffordshire	2 2	252,030	65.2	10.9	3 6 7
Durham	2 2	261,049	58.3	10.6	2 12 3
<i>County Boroughs</i>					
Bournemouth	6 8	18,813	66.3	2.9	2 15 9
Blackpool	6 0	22,798	45.5	8.0	3 19 8
Brighton	4 4	73,977	16.7	11.2	4 7 7
Manchester	3 4	368,806	49.8	13.1	3 16 0
Liverpool	3 0	488,030	47.5	15.4	4 6 5
Birmingham	2 8	333,721	50.0	15.6	4 0 7
Leeds	2 4	275,918	53.0	17.1	3 17 2
Sheffield	2 2	224,833	65.5	11.5	3 8 4
St Helens	1 8	40,959	81.0	5.7	2 7 2
West Bromwich	1 6	36,855	66.4	15.0	3 14 2
<i>Part III Authorities</i>					
Hove B	9 4	15,725	35.0	6.7	4 11 5
Bexhill B	6 10	3,700	59.3	4.1	3 2 8
Finchley B	4 8	16,071	35.5	18.2	5 14 8
Barking B	2 4	22,788	42.8	22.8	4 8 0
Luton B	2 0	21,500	64.2	12.3	3 3 6
Hartlepool B	1 6	15,842	55.8	23.7	3 19 10
Hebburn U D	1 6	11,794	65.6	13.9	2 19 0
Jarrow B	1 6	19,858	53.2	19.8	3 1 1
Coseley U D	1 4	12,772	58.5	23.0	3 5 2
Felling U D	1 4	16,425	55.6	25.8	3 11 7

additional grants to necessitous areas. The grant, however, was limited to a total sum of £350,000 per annum, and the measure was enacted as a temporary help. Only 28 English authorities benefited from this grant in 1907 and the amounts they received did not greatly change their relative positions. Thus, only three of the authorities in our selected list received this grant, Coseley, Felling and Hartlepool. For Coseley the grant (£614) meant a reduction of rate from 23d to 21d, for Felling (grant £1,341) a reduction from 25 8d to 21 1d, and for Hartlepool (£728) from 23 7d to 21 2d.

We see that the Necessitous Area Grant was completely inadequate, since it improved the financial position only very slightly. Nevertheless, the factor of "ability" was officially recognised and could not be ignored in the future.

The Kempe Report

In 1911, a Departmental Committee was set up to inquire into the relations between Imperial and Local Taxation, and to make recommendations. This Committee issued a report, known as the Kempe Report, which took into consideration all three factors of necessity, ability and effort. The formula devised by the Committee was based on the recommendation of the Minority Report of 1901. The standard expenditure per child was fixed at 60s, the standard rate at 7d and the proportion of excess expenditure to be included in the grant at two-fifths. The standard expenditure thus represented the factor of "necessity," the deduction of standard rate the factor of "ability," and the grant for excess expenditure the factor of "effort." There were additional provisions for exceptional cases, as the formula would only bring in an equalisation within certain limits.

The Formula of 1919

The War interrupted the consideration of the recommendations, although, in 1917, Mr. Fisher introduced a Supplementary Grant based on the Kempe Report. After the application of this grant in 1918, a marked improvement was shown in equalising local burdens, the Supplementary Grant was made, in 1919, into the Substantive Grant, with abolition of many minor grants. The formula adopted was 36s for each unit of average attendance, plus 60 per cent of salaries of teachers, plus 50 per cent of the net expenditure on special services, plus 20 per cent of the remaining net expenditure, less the product of a 7d rate upon assessable value. The minimum limit of the total grant was set at 50 per cent of total net expenditure, and the maximum limit at two-thirds of total net expenditure. Thus the equalisation formula worked only within these limits and therefore the richest areas profited by it more than the poorer. The formula still forms the basis of the present system of grants, although during the period of economy it was temporarily changed by the adoption of the block grants. The two limits, however, were abolished. The maximum of two-thirds of the expenditure was simply dropped in 1931, as it was never operative, and the minimum limit of 50 per cent was dropped in 1931, after the report of the May Committee.

The Regulations of 1932

The Regulations of 1932 added a new grant for necessitous areas, where the product of a 7d rate fell short of a prescribed basic sum, equal to the amount of deficiency. In spite of these

improvements of the original formula of 1919, it failed to achieve a complete equalisation of local burdens, but the most glaring inequalities were removed. Table 21 gives the data for selected local authorities for the year 1935-6. As in Table 20, column 2 represents ability, and column 5 the effort. We have added column 7 showing the percentage of children passing to senior schools or departments.

Analysis of Table 21

By comparing the tables with the data for 1906, we see a considerable improvement towards equalisation of burdens. The percentages of Board's contribution to total expenditure are conversely proportionate to the ability of the authority's area and directly proportionate to their efforts. Such anomalies as were possible in 1906, when Bournemouth received 66.3 per cent of total expenditure, cannot occur under present conditions of the grant. Bournemouth received only 18.4 per cent and Hove 8.5 per cent of their respective expenditures. At the other end of the list, Jarrow received 77 per cent instead of 53.2 per cent in 1906. But even this enormous difference between the State's help to Hove (8.5 per cent) and to Jarrow (77 per cent) could not equalise their local burdens. Hove, being twenty times richer than Jarrow, has to levy only 12 *2d* rate to Jarrow's 43 *1d*. In spite of that, Hove is able to spend £15 per child, whilst Jarrow spends just under £12. Evidently there is a certain limit to equalisation under the present system of local government.

The Board's Memorandum on Grant System (1926)

The Board of Education *Memorandum with regard to the existing Grant System* (1926) enumerates the following tests by which the grant system can be criticised: (a) if the grant represents a very much smaller percentage of the expenditure in some areas than in others, (b) if it leaves a very much greater rate burden to be borne in some areas than others, (c) if it does not safeguard economy by leaving the local authority to bear a considerable proportion of the expenditure controlled by it, and (d) if it does not secure for all children in the country the "equality of opportunity" of enjoying the advantages of a sound system of education. The test (a) can be disregarded, as the factor of "ability" has to be considered in any sound financial policy. The tests (b) and (c) conflict with each other inevitably unless the whole school system were to be centralised and maintained from State funds. Whilst local authorities administer national services, a certain inequality of local burdens will remain. The real test of the grant system is, therefore, the last, i.e. does the system help to establish the "equality of opportunity" for all areas or not? From the tables we see that the richer communities, in spite of the sliding scale of grants, are able to spend more per child than the poorer communities. That

TABLE 21—APPLICATION OF REGULATIONS OF 1932 BY SELECTED LEAs IN 1935-6

LEA	PRODUCT OF 1d RATE PER UNIT OF AVERAGE AT TENDANTS	TOTAL EXPENDITURE FROM PUBLIC FUNDS TAXES + RATES	PERCENT AGES OF BOARD OF EDUCATION GRANTS	RATIO IN POUND TO MEET THE EXPENDITURE	COST PER CHILD IN AVERAGE ATTENDANCE	PERCENT AGES OF CHILDREN PASSING TO SENIOR SCHOOLS
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>County Areas</i>	<i>s d</i>	<i>£</i>	<i>PERCENT AGE</i>	<i>d</i>	<i>£ s d</i>	<i>PERCENT AGE</i>
London	11 0	9,402,079	36 6	24 4	21 3 2	70 0
Surrey	9 1	1,060,143	36 8	19 0	13 13 10	63 7
Middlesex	8 4	867,955	38 9	22 4	15 4 8	79 5
Hertfordshire	6 9	538,951	44 6	22 1	13 8 7	43 2
Buckinghamshire	5 3	327,247	47 9	25 1	12 12 5	22 0
Cheshire	5 9	673,474	40 3	25 6	13 3 9	32 8
Kent	5 1	1,062,411	47 2	31 1	14 18 5	50 0
Westmorland	4 2	72,645	54 0	29 9	13 8 10	0
Essex	3 11	1,186,704	48 6	33 6	12 18 8	60 4
Lancashire	3 11	1,572,241	52 9	35 9	14 15 11	38 2
Bedfordshire	2 11	148,072	53 4	38 4	11 17 8	11 1
Leicestershire	2 10	391,161	53 4	40 9	12 10 1	46 1
Nottinghamshire	2 8	545,317	55 6	38 6	11 9 7	47 7
Yorkshire West Riding	2 7	2,037,910	55 6	42 7	12 9 6	40 4
Staffordshire	2 5	738,015	56 8	45 0	12 10 8	56 6
Cumberland	2 4	278,247	57 1	50 8	13 12 6	0
Cambridgeshire	2 3	100,406	58 3	47 7	12 12 7	22 2
Northfolk	2 2	434,915	59 3	44 8	11 14 10	11 6
Durham	1 9	1,521,429	61 3	50 6	13 10 7	25 2
Lincoln Holland	1 8	94,819	62 9	44 6	9 17 8	2 8
Average Counties	3 10	21,710,746	52 3	31 8	12 16 11	
<i>County Boroughs</i>						
Bournemouth	15 10	109,617	18 4	12 8	12 7 7	29 3
Eastbourne	14 11	65,226	26 9	13 9	14 3 9	78 5
Blackpool	12 3	154,355	30 4	17 5	15 7 0	83 0
Southport	11 3	92,387	33 9	16 8	14 1 7	18 1
Brighton	9 6	216,143	37 0	19 5	14 11 9	88 0
Croydon	7 8	344,030	44 5	21 6	14 16 9	76 8
Oxford	7 7	128,924	41 6	21 7	14 3 5	40 9
Manchester	5 6	1,485,748	47 7	31 5	16 12 9	37 6
Leeds	4 8	818,657	50 6	30 4	14 8 9	15 8
Birmingham	4 5	1,766,642	49 1	34 1	11 15 6	79 1
Sheffield	4 1	831,399	49 3	35 5	11 14 11	36 8
Liverpool	3 11	1,683,845	51 5	33 9	13 14 4	40 0
Wolverhampton	3 6	249,956	54 5	33 9	12 19 8	97 7
Walsall	2 6	190,659	58 7	42 2	12 11 9	85 2
Sunderland	2 4	344,200	58 6	41 2	11 12 9	12 8
Dudley	2 3	107,250	57 7	45 9	12 5 6	82 3
South Shields	2 3	192,875	61 7	37 1	10 19 6	71 0
West Bromwich	2 3	146,641	58 0	46 0	12 5 1	93 7
Stoke-on-Trent	2 2	468,231	59 6	44 2	11 14 8	75 0
St Helens	1 10	244,717	64 2	51 1	13 6 10	36 0
Average County Boroughs	4 6	22,052,960	50 8	31 1	14 2 1	

TABLE 21—continued

LEA	PRODUCT OF 1d RATE PER UNIT OF AVER AGE AT FUNDANCE	TOTAL EXPENDITURE FROM PUBLIC FUNDS TAXES & GRANTS	PERCENT AGES OF BOARD OF EDUCATION GRANTS	RATIO IN FUND TO MEET THE EXPENDITURE	COST PER CHILD IN AVERAGE ATTENDANCE	PERCENT AGES OF CHILDREN PASSING TO SENIOR SCHOOLS
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Part III Authorities</i>	<i>s d</i>	<i>£</i>	<i>PERCENT AGE</i>	<i>d</i>	<i>f s d</i>	<i>PERCENT AGE</i>
Hove	22 6	49,764	8 5	12 2	15 0 8	85 2
Bechill	16 8	18,217	17 1	12 1	12 2 9	0
Finchley	16 2	62,628	24 6	15 0	16 1 11	77 0
Lytham St Anne	15 11	19,801	19 5	12 8	12 3 3	0
Worthing	15 2	45,179	21 8	13 7	13 7 8	90 5
Wimbledon	13 11	68,353	29 7	16 2	15 19 9	87 5
Beckenham	13 7	77,352	27 4	18 8	17 11 7	95 2
Salisbury	6 0	33,680	49 1	19 6	11 12 3	96 2
Luton	5 7	104,480	48 1	23 0	12 8 3	110 3
Newbury	4 11	16,514	51 5	21 1	10 16 0	102 5
Deal	4 3	28,332	51 2	24 7	10 14 0	100 0
Barking	4 0	224,415	48 8	43 6	17 2 8	94 6
Chesterfield	3 0	126,193	54 4	41 6	13 10 1	96 0
Ilkeston	2 3	63,527	57 9	52 7	13 18 8	98 1
Coseley U D	1 8	43,977	61 5	56 2	12 0 10	98 9
Hartlepool	1 7	36,707	66 7	49 6	11 13 7	49 3
Tipton U D	1 6	73,054	67 8	51 9	11 15 7	82 2
Felling U D	1 5	52,197	68 7	52 0	12 2 5	40 0
Hebburn U D	1 4	45,295	70 3	48 3	10 18 3	0
Jarrow	1 3	68,591	77 0	43 1	11 19 7	47 7
Average Part III Authorities	5 4	9,740,226	49 1	26 6	14 0 11	

cannot be prevented whilst local authorities maintain the services, and in London, for instance, it is fully justified by the higher cost of living. Even in the case of a centralised State system, the cost per child can never be equal in all areas. The cost per child, therefore, if it is beyond a certain standard minimum, is not a test of equality of opportunity.

Conclusion

As in this survey we are mainly concerned with post-primary education, we shall not discuss the regional differences in medical service, nursery schools and infant departments, which are necessary in a sound educational system. We shall limit our comparison of opportunities to senior schools and departments. From the tables in Chapter One we have seen that the rural areas lag behind throughout the country. It is not a regional difference, it is a difference between the sparsely populated districts and urbanised centres. The grant system did not neglect this factor altogether, but those small additional grants given to sparsely populated areas were entirely inadequate for the policy of consolidation required by present reorganisation. As we have seen, the obstacles to re-

organisation are often of an historical or religious character, met with both in rural and urban areas. But, whereas in urban areas these obstacles can be surmounted comparatively easily, in rural areas they are often unsurmountable unless the grant system will give to these areas a special consideration. The Act of 1936, by introducing building grants to non-provided schools, helped considerably the reorganisation of rural areas, but it still remains a general Act, giving no special consideration to rural areas as such. If "equality of opportunity" is the purpose of the grant system, a special grant should be added for consolidation of rural schools.

Effect of Regional Variation

When we consider purely regional variation, we meet a different picture. In our list of selected sixty authorities, we see that the progress of reorganisation is both independent from the ability of the area and from the percentage of the grant. Although London, Middlesex and Surrey, the richest among the counties, have the highest percentage of reorganisation in the county list, it is largely due to their urban character and less to their ability. Many poorer urban centres have higher percentages. Westmorland, on the other hand, although a comparatively rich county, has not yet started reorganisation, whereas Staffordshire, one of the poorest counties, has a high percentage. This is even more evident from the lists of county boroughs and Part III authorities. The richest county borough, Bournemouth, has a very low percentage of reorganisation (29.3), whereas the poorest county boroughs of West Bromwich and Stoke-on-Trent have 93.7 per cent and 75 per cent respectively, even the last county borough in ability, St Helens, has a higher percentage. Southport is another example of a rich county borough with a low percentage (18.1 per cent). Among Part III authorities, the second richest borough, Bexhill, has not yet started reorganisation, whereas the poorest borough, Jarrow, has 47.7 per cent. The progress also does not depend on the percentage of the grant. Hove, for instance, receives only 8.5 per cent of its expenditure, but has a highly reorganised system (85.2 per cent), whereas Hebburn receives 70.3 per cent of its expenditure and has not yet started reorganisation. The progress of reorganisation does not depend even on the cost per child, which is the combination of both factors. Deal and Newbury have a low cost per child (below £11), but have the highest percentages (more than 100 per cent), because of pupils from adjacent areas. The County Borough of Burnley, on the other hand, has a high cost per child (£15 15s 4d), but the lowest percentage (5 per cent) among the county boroughs. It seems that the variation in the progress of reorganisation is entirely due to local causes, discussed in Chapter One. The sliding scale of the present grant system certainly gives the necessary financial basis for reorganisation, but it does not encourage progress by any specific conditions. Perhaps

in a few years the differences between the urban areas will disappear without any special encouragement. It is hardly true about rural areas. These areas are not likely ever to be completely reorganised without special grants for consolidation of small schools.

B HIGHER EDUCATION

Introduction

In higher education, the first grants of the Science and Art Departments followed the same policy of "fertilising agents." The Department made grants in respect of individual students who attended classes at any kind of institution in one or more of certain subjects. Through the gradual expansion of the list of subjects by the Department, many of the old endowed schools could qualify for these grants. But there were still many others which, by refusal to change their traditional classical curriculum, could not profit from the grants, as both Latin and Greek were excluded from the list. The Whisky Money available since 1890 was definitely limited to technical education and, moreover, could be used for the relief of rates. Secondary education of a general character was not much helped by these provisions. Up to 1902, it was mainly dependent on endowments, subscriptions and fees. The creation of local education authorities for secondary education in 1902 led to the foundation of many council schools in all areas. New groups of the population began to send their children to secondary schools, the councils began to levy rates for this purpose, and the old system of grants from the Science and Art Department was inadequate in many respects.

The Regulations of 1907

The Regulations of 1907 completely changed the principles of grants. Most of the anomalies of the old grant system were removed. Hitherto, schools making special provision for science had been receiving grant at double the rate received by the others, the grant was assessed at different rates on pupils in the different years of the course, and many schools tended to distort their curriculum in order to earn more money. The new grant was assessed at a uniform rate of £5 for all pupils between 12 and 18, and a grant of £2 for all ex-elementary school pupils between 10 and 12. For small schools, a minimum grant was provided (£250) to meet their difficulties. Especially important were the conditions of the grant. The first requirement was that the majority of the responsible governing body should be representatives of popularly elected authorities. The second required that the school should make provision for the admission of ex-public elementary school children as free place holders. Schools which could not, or would not, comply with these conditions were allowed to remain on the Grant List at half the new rate. The

first condition sponsored the municipalisation of secondary education, and the second condition democratised the old endowed schools, which, till then, were largely "class" institutions. Thus the grant system of 1907 revolutionised the traditional conception of secondary education as a privilege of the well-to-do classes, and encouraged the provision of opportunity for abler children of the poorer classes. Nevertheless, secondary education was still regarded as a kind of luxury to be provided for a small section of the population selected, to be sure, from all classes, but mainly for those who could pay for it. Neither the variation in "need" nor in "ability" of different areas was considered. It is strange that, whereas elementary education was regarded as a national service by both the Royal Commission of 1901 and the Kempe Committee of 1911, secondary education was not included in this category. By law, the provision of secondary education was not statutory, and local authorities were not obliged to maintain even a single secondary school, but in their recommendations, both committees considered general principles and, therefore, could include secondary education within the system of national services. They have done so indirectly by speaking of education in general, but when they came to the discussion of the grant system for secondary schools, they disregarded their own conditions of a sound financial policy. They simply endorsed the existing grants without even mentioning the factors of necessity, ability and effort.

New System of Grants

In 1917, the Board's grant was raised from £5 to £7, but the rapidly rising cost of living made this increase of little account. The consequent increased burden of local authorities and of parents (increase of fees) led the Government to introduce, in 1918, a new system of grants. Firstly, the 2*d* limit on the sum which a local authority might raise from the rates for higher education was repealed. Secondly, the Act of 1918 provided that the State contribution should not be less than 50 per cent of the total net expenditure of local authorities. The Whisky Money also disappeared as a separate grant and was merged with the substantive grant. Additional grants were paid to those authorities which maintained training colleges and in respect of free places for ex-public elementary school pupils in excess of 25 per cent of all pupils. The latter grant was discontinued after a few years. The present Regulations are still based on the 50 per cent grant of net expenditure recognised by the Board of Education. These grants are paid to the local authorities for schools controlled by them, but within their areas are many independent secondary schools which also receive grants from the Board direct. Thus an area rich in direct-grant schools would receive proportionally more than an area devoid of these schools. The direct-grant schools receive a capita-

19 years of age, but the grant is reduced to £4 10s in case of a school not fulfilling all the requirements of the Board. There is a minimum grant of £350 for smaller schools. Additional grants are paid to the sixth-form pupils and pupils entering for approved examinations. Direct-grant schools also receive substantial subsidies from local authorities. Thus the total public expenditure of an area on secondary education must combine all grants of the Board with the total expenditure of local authorities from rate funds. When this addition is made, it is seen that the 50 per cent formula is considerably distorted in many areas.

Analysis of Table 22

We give here tables for geographical counties representing total public expenditure on maintenance of secondary schools. In order to calculate the "need" of the area we give, in column 2, the population of the age-groups 6-11 years in 1931 (11-16 years in 1936). The next three columns (3, 4 and 5) give the expenditure on the three groups of grant-aided secondary schools and column 6 shows the percentage coming from the grants. Columns 7, 8 and 9 give the expenditure per head of population of the five years group (11-16). We give these figures instead of cost per pupil, as was done in the case of the elementary school tables, because the attendance is not compulsory, and in order to calculate "need" we have to take the whole age-groups and not pupils. Column 10 shows the percentage of the age-group (11-12) admitted to grant-aided secondary schools in 1936.

In order to show the difference between boys and girls, we had to divide the expenditure between the sexes. In the case of indirect- and direct-grant schools it was quite easy, as, with few exceptions, these schools are either for boys or girls only. In the case of local education authority schools, the majority of which are for both sexes, we have divided expenditure approximately in proportion to the number of boys and girls in all local education authority schools of the area. The totals are, therefore, correct figures, but the expenditure for boys and girls respectively is only approximate. Probably the figures for girls should be slightly higher, as girls' schools are usually smaller and, therefore, more expensive per head.

Table 22 shows us how the direct grants distort the principle of 50 per cent of local expenditure. In Bedfordshire, the area receives 63.5 per cent of its total public expenditure on secondary education, whereas in Cumberland it is only 46.5 per cent, because the first county is rich in direct-grant schools and the second has none. As the grants consider only expenditure, the amount per head of the five years group (11-16) varies from 16s. 3d in Staffordshire to 40s. 9d in Middlesex. The same disparity of grants is seen in the differences between the sexes. In all counties, with the exception of six (Cambridgeshire, Durham, Essex, Lincolnshire,

TABLE 22—EXPENDITURE ON GRANT-AIDED SECONDARY SCHOOLS, 1935-6, BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES	POPULATION 7-11 YEARS IN 1931	TOTAL EXPENDITURE ON MAINTENANCE FROM PUBLIC FUNDS (PAIES — RATES)				PERCENTAGE OF BOARD OF EDUCATION	EXPENDITURE PER HEAD OF THE 9 YEARS GROUP FROM				PERCENTAGE OF AN AGE GROUP ENTERING GRANT-AIDED SECONDARY SCHOOLS (10)
		1 & 4 SECONDARY SCHOOLS		INDIRECT GRANT-SCHOOLS	DIRECT GRANT SCHOOLS		(6)	GRANTS	RATES	TOTAL	
		(3)	(4)								
(1)	(2)	£	£	£	PERCENTAGE	£	£	£	£	£	£
<i>Bedfordshire</i>											
Boys	9,236	9,100	—	22,063	65.6	44	2	27	6	71	8
Girls	8,575	12,200	—	9,939	60.8	31	2	20	0	51	2
Total	17,811	21,348	—	32,002	63.5	38	10	22	6	61	4
<i>Berkshire</i>											
Boys	12,873	21,800	—	11,986	47.0	24	9	27	9	52	6
Girls	12,485	25,150	—	980	47.3	19	8	22	0	41	8
Total	25,358	46,952	—	12,966	47.2	22	3	24	11	47	2
<i>Buckinghamshire</i>											
Boys	11,173	8,800	13,200	—	50.0	19	8	19	9	39	5
Girls	10,847	7,900	12,900	—	50.0	19	2	19	2	38	4
Total	22,020	16,736	26,122	—	50.0	19	5	19	5	38	10
<i>Cambridgeshire (including Isle of Ely)</i>											
Boys	9,002	12,000	6,544	4,461	48.1	24	7	20	6	51	1
Girls	8,585	13,350	—	3,275	35.6	28	1	22	6	50	7
Total	17,537	30,353	6,544	7,736	51.9	26	4	24	6	50	10
<i>Cheshire</i>											
Boys	45,062	85,000	2,600	27,360	52.8	26	11	24	2	51	1
Girls	44,332	78,800	1,600	29,153	50.8	24	9	23	11	48	8
Total	89,394	163,316	4,204	56,513	51.8	25	10	24	0	49	10
<i>Cornwall</i>											
Boys	13,089	32,000	—	3,328	53.0	28	7	25	4	53	11
Girls	12,735	31,000	—	951	51.4	25	9	24	5	50	2
Total	25,824	63,017	—	4,279	52.4	27	2	24	11	52	1
<i>Cumberland</i>											
Boys	12,653	18,000	19,580	—	46.8	27	6	31	7	59	1
Girls	12,367	26,100	9,710	—	46.3	27	0	31	0	58	0
Total	25,020	44,114	29,270	—	46.5	27	3	31	4	58	7

TABLE 22—continued

GEOGRAPHICAL COUNTIES	POPULATION 6-11 YEARS IN 1901	TOTAL EXPENDITURE ON MAINTENANCE FROM PUBLIC FUNDS (GRANTS + RATES)				PERCENTAGES FROM THE BOARD OF EDUCATION	EXPENDITURE PER HEAD OF THE 5 YEARS AGE GROUP FROM			PERCENTAGE OF AN AGE GROUP ENTERING SECONDARY SCHOOLS
		L E A SECONDARY SCHOOLS	INDIRECT GRANTS	DIRECT GRANT SCHOOLS	GRANTS		RATES	TOTAL		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
<i>Derbyshire</i>					PERCENTAGE				PERCENTAGE	
Boys	35,338	57,500	24,000	5,642	51.7	25.6	23.11	49.5	13.1	
Girls	34,675	57,600	15,300	—	50.0	21.0	21.0	42.0	10.2	
Total	70,013	115,087	39,340	5,642	50.9	23.4	22.6	45.10	11.7	
<i>Devonshire</i>										
Boys	28,919	86,800	2,009	15,406	53.2	38.4	33.9	72.1	22.3	
Girls	28,681	59,600	—	11,731	54.3	27.2	22.10	50.0	17.0	
Total	57,600	146,372	2,009	27,137	53.7	32.5	28.7	61.0	19.7	
<i>Dorsetshire</i>										
Boys	9,766	12,000	22,000	—	48.3	32.9	34.10	67.7	22.5	
Girls	9,456	16,900	8,000	—	48.3	25.5	27.2	52.7	16.8	
Total	19,211	28,858	30,026	—	48.3	29.1	31.0	60.1	19.7	
<i>Durham</i>										
Boys	81,193	144,800	—	6,672	51.6	19.3	18.1	37.4	9.2	
Girls	79,683	144,000	—	10,638	51.5	19.9	19.1	38.10	9.8	
Total	160,876	288,816	—	17,310	51.5	19.6	18.7	38.1	9.8	
<i>Essex</i>										
Boys	82,931	115,000	28,964	20,435	50.5	20.0	19.8	39.8	12.2	
Girls	80,377	131,100	21,473	11,081	49.5	20.2	20.6	40.8	13.6	
Total	163,308	246,165	50,437	31,516	50.0	20.1	20.1	49.2	12.8	
<i>Gloucestershire</i>										
Boys	34,286	38,700	57,931	17,425	56.5	37.6	29.0	66.6	21.3	
Girls	33,165	24,800	38,561	22,038	53.2	27.5	24.1	51.6	17.9	
Total	67,451	63,503	96,492	39,463	54.0	32.0	27.4	59.4	19.7	
<i>Hampshire and Isle of Wight</i>										
Boys	46,450	72,300	17,547	15,469	50.0	22.8	22.8	45.4	15.2	
Girls	45,038	71,200	2,100	11,454	53.5	20.1	17.8	37.9	13.4	
Total	91,488	143,554	19,647	26,923	50.8	21.1	20.5	41.6	14.3	

Herefordshire

Boys	5,095	9,500	2,555	2,305	37.9	32.7	23.9	55.4	19.0
Girls	4,975	9,700	2,060	—	50.0	23.8	23.7	47.3	15.8
Total	10,070	19,174	4,615	2,305	54.6	28.4	23.8	52.0	17.3

Herefordshire

Boys	16,400	17,000	12,041	19,435	51.9	30.7	28.7	59.2	21.6
Girls	15,021	19,100	10,509	4,368	49.4	20.1	27.5	47.6	16.0
Total	31,421	36,063	22,550	24,003	47.8	25.4	28.0	53.4	18.8

Huntingdonshire

Boys	2,974	3,400	7,088	—	63.2	45.0	26.2	71.2	19.3
Girls	2,363	2,600	3,400	—	49.2	24.7	25.5	50.0	19.2
Total	5,337	6,000	10,488	—	57.8	35.7	26.0	61.7	19.3

Kent

Boys	32,774	78,500	92,226	9,723	50.0	34.2	34.3	68.5	19.3
Girls	51,473	105,000	23,990	9,588	50.5	27.0	26.9	53.9	16.1
Total	104,247	183,472	116,216	19,311	50.2	30.10	30.5	61.3	17.9

Lancashire

Boys	215,810	381,880	74,022	103,857	51.2	26.6	25.3	61.9	13.9
Girls	214,142	318,820	39,315	109,817	54.1	23.7	20.1	43.8	13.5
Total	429,952	700,716	113,337	213,674	52.8	25.3	22.6	47.9	13.7

Leicestershire

Boys	23,297	52,000	11,713	6,159	48.7	29.3	30.10	60.1	16.9
Girls	23,159	48,400	9,977	4,701	45.9	25.2	29.7	54.9	16.0
Total	46,456	100,328	21,690	10,860	47.7	27.3	30.0	57.3	16.5

Lincolnshire

Boys	28,600	27,600	65,298	—	43.6	27.3	37.8	64.11	17.9
Girls	28,211	48,700	19,936	—	61.2	29.9	18.10	48.8	15.1
Total	56,811	76,348	85,234	—	51.5	28.6	28.2	56.8	16.5

London

Boys	173,521	156,000	302,103	20,046	43.5	23.11	31.2	55.1	12.3
Girls	170,838	180,000	208,716	46.0	61.2	29.9	18.10	50.0	13.0
Total	344,359	336,971	510,819	58,913	44.6	23.4	29.0	52.4	12.7

Middlesex

Boys	66,042	284,000	59,981	—	46.6	41.6	47.7	89.1	18.0
Girls	64,776	218,600	36,912	12,749	48.2	39.9	43.10	82.7	21.4
Total	130,818	452,665	96,893	12,749	47.3	40.9	45.6	86.3	20.5

Notfolk

Boys	22,522	20,300	19,473	6,551	51.3	21.1	20.2	41.2	11.9
Girls	22,160	25,800	8,927	9,210	53.9	21.3	18.3	39.6	13.7
Total	44,682	46,161	28,400	15,761	52.5	21.2	19.3	40.4	12.8

TABLE 22—continued

GEOGRAPHICAL COUNTRIES	POPULATION 6-11 YEARS IN 1931	TOTAL EXPENDITURE ON MAINTENANCE FROM PUBLIC FUNDS (RATES + RATES)				PERCENTAGES FROM THE BOARD OF EDUCATION	EXPENDITURE PER HEAD OF THE 9 YEARS GROSS FROM			PERCENTAGE OF AN AGE GROUP ENTERING GRANT AIDED SECONDARY SCHOOLS	
		DIRECT GRANT SCHOOLS		INDIRECT- GRANT SCHOOLS	(5)		(6)	GRANTS	RATES		TOTAL
		(3)	(4)								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
<i>Northamptonshire</i>											
Boys	15,297	22,117	7,750	1,845	49.9	20.9	20.9	41.5	15.1		
Girls	14,727	28,171	—	4,871	53.6	24.0	20.10	44.10	17.4		
Total	30,024	50,288	7,750	6,716	51.7	22.4	20.10	43.2	16.2		
<i>Northumberland</i>											
Boys	36,143	60,300	—	18,392	56.3	24.5	19.1	43.6	13.9		
Girls	36,046	61,900	—	7,701	52.0	20.3	18.5	38.8	11.5		
Total	72,189	122,228	—	26,093	54.4	22.4	18.9	41.1	12.8		
<i>Nottinghamshire</i>											
Boys	32,994	35,800	23,464	5,308	48.9	19.1	20.0	39.1	12.6		
Girls	32,049	32,450	16,450	2,832	50.9	16.3	15.9	32.0	10.7		
Total	65,043	67,761	39,914	8,140	49.9	17.8	17.10	35.6	11.5		
<i>Oxfordshire</i>											
Boys	8,460	26,300	4,742	2,245	51.9	40.9	37.11	78.8	18.5		
Girls	8,343	15,300	1,701	2,497	51.4	27.8	26.2	53.10	15.2		
Total	16,803	44,601	6,443	4,742	51.7	34.4	32.1	66.5	19.9		
<i>Rutland</i>											
Boys	740	—	—	2,544	86.0	59.3	9.6	68.9	19.0		
Girls	758	—	—	—	—	—	—	—	0		
Total	1,498	—	—	2,544	86.0	29.7	4.9	34.4	10.0		
<i>Shropshire</i>											
Boys	11,165	26,000	16,512	—	49.9	38.0	38.1	76.1	17.5		
Girls	10,904	46,600	—	1,893	52.7	37.3	33.4	70.7	19.3		
Total	22,069	62,562	16,512	1,893	51.4	37.8	35.10	73.6	18.4		
<i>Somerset</i>											
Boys	19,416	29,700	18,537	11,029	55.6	34.0	27.1	61.1	21.1		
Girls	18,779	29,700	8,303	1,910	50.4	21.5	21.1	42.6	16.0		
Total	38,195	59,369	26,840	12,939	53.4	27.8	24.2	51.10	17.9		

Staffordshire

Boys	70,808	88,200	7,369	27,462	50.5	17.4	17.0	34.4	9.2
Girls	68,282	68,800	25,322	11,527	48.9	14.9	15.7	30.4	7.1
Total	140,090	156,988	32,691	38,989	49.8	16.3	16.5	32.8	5.6

Suffolk

Boys	18,392	38,500	6,119	5,528	55.0	29.10	24.7	54.5	18.1
Girls	17,539	30,100	—	4,277	50.1	19.9	19.7	39.4	11.2
Total	35,931	68,556	6,119	9,805	53.2	25.0	22.1	47.1	14.7

Surrey

Boys	45,240	74,100	44,360	25,079	54.3	34.6	29.0	63.6	21.0
Girls	43,794	79,500	10,728	25,252	55.7	29.8	23.2	52.0	21.7
Total	89,034	153,584	55,088	50,331	54.6	31.8	26.7	58.3	21.3

Sussex

Boys	29,340	47,000	27,590	—	47.6	24.3	26.7	50.10	17.4
Girls	28,129	54,600	—	2,654	51.4	20.10	19.10	40.8	13.9
Total	57,469	101,583	27,590	2,654	49.2	22.5	23.4	45.9	15.7

Warrackshire

Boys	67,982	65,400	96,448	11,929	49.4	25.3	25.10	51.1	14.9
Girls	66,869	91,700	29,667	—	46.6	17.0	19.4	36.4	11.7
Total	134,851	157,097	126,115	11,929	48.5	21.4	22.5	43.9	13.3

Westmorland

Boys	2,658	1,800	10,070	—	41.5	37.0	52.3	89.3	20.1
Girls	2,634	1,800	6,599	—	40.0	25.7	38.3	63.10	18.9
Total	5,292	3,612	16,669	—	41.0	31.5	45.1	76.6	19.5

Wiltshire

Boys	13,028	9,500	33,600	3,072	51.9	36.10	34.3	71.1	19.0
Girls	12,616	15,000	25,300	—	50.0	32.0	32.0	64.0	17.0
Total	25,644	24,474	58,901	3,072	51.1	34.6	33.4	67.10	18.1

Worcestershire

Boys	18,596	19,000	29,016	8,890	49.1	29.8	30.11	60.7	17.6
Girls	18,152	39,500	—	—	50.0	21.8	21.9	43.5	12.3
Total	36,748	58,497	29,016	8,890	49.4	25.9	26.6	52.3	14.9

Yorkshire East and North

Boys	44,590	70,800	20,419	31,468	50.5	27.8	27.4	55.0	16.8
Girls	44,259	85,700	5,136	10,515	51.2	23.8	22.1	45.9	14.7
Total	88,849	156,538	25,555	41,983	50.9	25.8	24.9	50.5	15.8

Yorkshire West Riding

Boys	152,733	331,000	128,052	39,739	48.5	31.8	33.8	65.4	17.4
Girls	147,692	319,000	50,598	43,353	50.1	27.4	27.2	54.6	16.4
Total	300,425	650,002	178,650	83,092	49.2	29.10	30.10	60.8	16.9

Norfolk and Northamptonshire), boys receive a larger grant per head than girls. The difference is often considerable. In the six exceptional counties, the difference in the girls' favour is very small. Again, in this favourable position of boys, we see the influence of the old endowed schools, receiving either direct or indirect grants. In the six exceptional counties, in Cambridgeshire, Lincolnshire and Norfolk the girls lose their advantage from grants by receiving smaller amounts from rates, in Lincolnshire, for instance, it is less than half the amount given to boys. When we compare column 10, the percentage of an age-group entering grant-aided schools, with the expenditure per head we see a close relation. The grant policy determines the proportion of the age-group which can enjoy secondary education. In Bedfordshire, boys receive 44s 2d per head of the five years group, and 25 per cent of boys enter grant-aided schools, in Staffordshire, girls receive 14s 9d per head, and only 7.1 per cent of girls are able to enter secondary schools. In addition, the policy of direct grants gives a preference to a relatively well-to-do group of population. The parents of pupils in the direct-grant schools pay on the average about £20 fees (except a small percentage of free pupils), which amounts only to about two-thirds of the total expenditure per pupil. About one-third comes from public funds (mainly from grants). We have seen from the statistics of leavers that free pupils as a group are abler than the fee-payers, the majority of whom do not even receive the School Certificate. The grant policy quite plainly does not consider the factor of "necessity," either from the point of view of quantity or from the point of view of quality. The traditional attitude towards secondary education as a privilege of the well-to-do classes is still influencing the system of grants. The Regulations of 1907 concerning free pupils tried to change that attitude, without a change of the grant system, but that measure was insufficient in itself.

Analysis of Table 23

Another defect of the grant system for higher education is its disregard of the "ability" of the area. The following table of selected authorities shows that clearly. In this table we give the figures for all expenditure on higher education, as the principle of grants is the same both for secondary and technical education. Column 2 shows the ability of the area expressed by the product of 1d rate per adolescent of the five years group (13-18 years) and the last column (8) shows the effort of the area expressed in rate in the £ to meet the expenditure.

The influence of direct grants is seen at once in the case of Bedfordshire and Croydon in exceptionally high percentages of State contribution to expenditure. The cost per head of the five years group varies between 166s 4d in Southend-on-Sea and 30s 3d in Gateshead, and the rate in the £ to cover the local contri-

TABLE 23—EXPENDITURE ON HIGHER EDUCATION BY TYPES OF L.E.A.

SELECTED L.E.A.s	PRODUCT OF RATE PER HEAD OF 5 YEARS GROUP (13-16)	TOTAL EXPENDITURE ON HIGHER EDUCATION (13-16) TAXES + RATES	PERCENTAGE FROM BOARD OF EDUCATION GRANTS	COST PER HEAD OF 5 YEARS GROUP FROM PUBLIC FINANCIAL			RATE IN THE L.E.A. TO MEET THE EXPENDITURE
				GRANTS	RATES	TOTAL	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Countries</i>	<i>£</i>	<i>£</i>	PERCENTAGE	<i>£</i>	<i>s</i>	<i>d</i>	<i>d</i>
London	14 2	2,817,568	50 1	81 10	81 9	163 7	5 8
Surrey	12 9	436,188	50 8	62 0	61 8	123 8	4 7
Middlesex	10 10	1,042,965	49 4	78 9	80 8	159 5	7 4
Hertfordshire	8 7	148,967	52 5	48 3	43 7	91 10	5 1
Kent	7 9	649,198	49 5	62 9	64 1	126 10	8 2
Buckinghamshire	7 0	86,841	48 5	38 3	40 7	78 10	5 8
Bedfordshire	6 3	72,098	63 3	51 4	29 6	80 10	4 8
Essex	6 3	454,836	50 7	40 11	39 9	80 8	6 4
Cambridgeshire	6 2	45,851	55 1	44 3	36 1	80 4	5 8
Cheshire	6 0	215,503	51 5	40 8	38 2	78 10	6 4
Warwickshire	5 6	160,370	48 9	47 7	52 0	99 7	9 1
Lancashire	5 6	839,623	50 6	59 3	57 9	117 0	10 5
Yorkshire West Riding	4 4	893,217	50 4	63 9	63 7	127 4	15 8
Nottinghamshire	3 10	147,219	48 3	34 0	36 5	70 5	9 4
Derbyshire	3 10	239,945	48 9	40 9	43 0	83 9	10 8
Leicestershire	3 9	139,621	49 5	56 5	57 7	114 0	15 8
Staffordshire	3 2	256,246	48 3	35 11	38 7	74 6	12 3
Cheshire	3 2	99,508	48 8	49 0	51 10	100 10	16 3
Cumberland	2 10	31,882	46 6	33 6	38 4	71 10	13 5
Lincolnshire	2 6	337,921	49 3	32 6	33 6	66 0	13 5
Durham							

TABLE 23—continued

SELECTED L E A S	(1)	PRODUCT OF 1d RATE PER HEAD OF 5 YEARS GROUP (13-18)	(2)	TOTAL EXPENDI- TURE ON HIGHER EDUCATION FROM TAXES + RATES	(3)	PERCENTAGE FROM BOARD OF EDUCATION GRANTS	COST PER HEAD OF 5 YEARS GROUP FROM PUBLIC FUNDS			RATE IN THE f TO MEET THE EXPENDITURE
							GRANTS	RATES	TOTAL	
County Boroughs										
Bournemouth		f	d	f	52 3	61 8	s	d	f	d
		19 6		42,371				56 4	118 0	29
Blackpool		19 2		42,848	30 3	67 0	66 9	133 9	133 9	35
Eastbourne		18 0		22,396	48 7	57 8	61 0	118 8	118 8	34
Brighton		12 6		71,454	54 2	69 6	58 10	128 4	128 4	47
Oxford		12 4		46,293	52 2	85 8	78 8	164 4	164 4	64
Southend-on-Sea		12 2		75,374	50 3	83 8	82 8	166 4	166 4	68
Croydon		9 7		74,455	64 4	52 2	28 7	80 9	80 9	30
Canterbury		8 10		10,750	46 0	49 8	58 7	108 3	108 3	66
Manchester		7 6		407,083	51 1	63 10	61 0	124 10	124 10	81
Leeds		6 9		293,877	55 5	80 2	70 1	150 3	150 3	99
Birmingham		5 11		451,524	48 0	48 11	53 1	102 0	102 0	89
Liverpool		5 7		355,252	50 7	42 0	40 9	82 9	82 9	73
Wolverhampton		5 5		59,749	53 4	51 5	44 11	96 4	96 4	63
Sheffield		5 4		208,339	52 8	49 4	44 0	93 4	93 4	83
Sunderland		3 6		79,306	52 3	42 3	38 5	80 8	80 8	109
Middlesbrough		3 6		59,785	51 7	43 9	40 11	84 8	84 8	115
Gateshead		3 3		19,286	48 8	14 8	15 7	30 3	30 3	47
South Shields		3 3		21,951	47 7	16 4	19 2	35 6	35 6	58
Stoke-on-Trent		3 0		96,906	49 3	34 0	34 10	68 10	68 10	115
St Helens		3 0		64,419	50 3	58 0	57 4	115 4	115 4	187

bution from 2 *9d* in Bournemouth to 18 *7d* in St Helens. Not only the ability is disregarded, but even the "effort" of the area expressed in rate in the £ is only partially considered. Even the absolute expenditure of the area does not determine the grant, as the direct-grant institutions receive grants independently of the expenditure of the area.

Conclusion

It is almost impossible to separate the expenditure on technical education from other items of higher education, except secondary education. As expenditure on further education, other than secondary, is closely connected with urban population, we can compare only great urban centres. In Table 24 we have selected seven great centres: London, Middlesex, Birmingham, Liverpool, Manchester, Leeds and Sheffield.

TABLE 24—EXPENDITURE ON FURTHER EDUCATION BY SELECTED LEAS

URBAN CENTRE	POPULATION 14-15 YEARS	TOTAL EXPENDITURE ON FURTHER EDUCATION (EXCLUDING SECONDARY)	PERCENTAGE OF BOARD OF EDUCATION GRANTS	COST PER HEAD OF 5 YEARS GROUP
		£	PERCENTAGE	£ d
London	344,350	1,911,865	48	111 1
Middlesex	130,818	480,658	49	73 2
Birmingham	88,477	265,629	48	60 0
Liverpool	85,773	177,861	49	41 6
Manchester	65,160	244,421	50	75 0
Sheffield	44,630	107,067	53	47 11
Leeds	39,123	167,866	55	85 9

We see that in technical education, as in secondary education, the grant system does not equalise the opportunities. Neither the necessity nor the ability is considered.

N HANS

CHAPTER SIX

REGIONAL PROVISION FOR POST-PRIMARY EDUCATION IN WALES

Introduction

ALTHOUGH Wales very often is treated in statistical and educational publications as a part of a larger unit of England and Wales, it should be described as a separate country, having its own tradition, legislation and special features. When lumped together with England, Wales loses its characteristics, and the marked difference between the two countries is obliterated. In all three branches of post-primary education, senior schools, secondary schools and technical education (including agricultural), Wales differs from England considerably.

Senior Schools

The following table on senior schools, compiled in the same way as the corresponding table for England, shows much slower progress of reorganisation of elementary education than in England.

Comparison with England

Only 21.4 per cent of pupils in public elementary schools get into senior schools against 54 per cent in England. There are two main causes for this difference. The first cause is a better provision for secondary education, about 26 per cent of public elementary school pupils proceed to grant-aided secondary schools in Wales, and therefore in some areas the reorganisation is not such an urgent problem, since almost all able pupils (in Merionethshire, for instance, 57 per cent) are transferred. The second general cause is the difference in school organisation. The average age of entry to secondary schools in Wales is higher than in England, 73.2 per cent of ex-elementary pupils enter at 12+ years and 19.8 per cent at 13+ years, whereas in England the usual age of entry is 11+ years. As 95.5 per cent of all secondary school pupils come from public elementary schools, this fact decides the age of entrance. The establishment of senior schools for 11+ years groups would involve, therefore, a double transfer. The Welsh Department of the Board of Education, in its Memorandum No. 1, suggested either the lowering of the age of entrance into secondary schools or the raising of it for senior schools, so that in any given area the transfer age should be the same for both types of schools. Owing to many difficulties of finance and administration, or to some local conditions, this change has not yet been effected in many areas. Besides these main causes, the rural character of many counties presents the same difficulties met with in the English rural areas. One obstacle, however—the “religious difficulty”—is almost

TABLE 25—PROGRESS OF REORGANISATION

COUNTY	NO OF PUPILS 11-15 YEARS IN 1955	NO OF PUPILS 13-15 YEARS IN SENIOR DEPARTMENT, 1957	PERCENTAGE OF COL 3 TO 4
(1)	(2)	(3)	(4)
<i>Anglesey</i>			
Urban	304	79	26.0
Rural	461	—	0
Total	765	79	10.3
<i>Brecknockshire</i>			
Urban	287	63	21.9
Rural	669	30	4.5
Total	956	93	9.7
<i>Carmarvonshire</i>			
Urban	833	637	76.6
Rural	710	64	7.6
Total	1,543	691	44.7
<i>Cardiganshire</i>			
Urban	182	59	32.4
Rural	570	—	0
Total	752	59	7.8
<i>Carmarthenshire</i>			
Urban	1,350	682	50.5
Rural	1,671	199	11.9
Total	3,021	881	29.3
<i>Denbighshire</i>			
Urban	700	379	54.1
Rural	1,659	575	34.6
Total	2,359	954	40.7
<i>Flintshire</i>			
Urban	867	223	25.7
Rural	998	228	22.9
Total	1,865	451	24.2
<i>Glamorganshire</i>			
Urban	12,582	2,702	21.5
Rural	3,215	432	13.4
Cardiff	3,576	104	2.9
Swansea	2,669	1,059	39.7
Total	22,042	4,297	19.5
<i>Merionethshire</i>			
Urban	303	123	40.6
Rural	346	—	0
Total	649	123	18.9
<i>Monmouthshire</i>			
Urban	7,154	1,673	23.4
Rural	834	63	7.6
Total	7,988	1,736	21.7
<i>Montgomeryshire</i>			
Urban	285	—	0
Rural	509	—	0
Total	794	—	0
<i>Pembrokeshire</i>			
Urban	701	157	22.4
Rural	742	—	0
Total	1,443	157	10.9

TABLE 25—continued

COUNTY	NO. OF PUPILS 11-12 YEARS IN 1936	NO. OF PUPILS 11-12 YEARS IN SENIOR DEPARTMENTS, 1947	PERCENTAGE OF COL. 1 TO 2
(1)	(2)	(3)	(4)
<i>Radnorshire</i>			
Urban	95	—	0
Rural	249	—	0
Total	344	—	0
<i>Wales and Monmouth- shire</i>			
Urban	31,888	7,940	24.9
Rural	12,633	1,581	12.6
Total	44,521	9,521	21.4

absent in Wales. Roman Catholics are few in Wales, and the Episcopal Church of Wales is disestablished and claims only 28 per cent of the population. The attitude of the Church of Wales towards common schools is more conciliatory and, as a rule, Welsh schools are undenominational. The regional variation is almost as great as in England. Montgomeryshire and Radnorshire have no reorganised schools, whereas in Caernarvonshire 44.7 per cent and in Denbighshire 40.7 per cent of all pupils enter senior schools. Rural districts, as a rule, lag behind the urban areas, with the exception of the largest county borough, Cardiff, which has only 2.9 per cent of pupils in senior schools. This is partially due to the presence of large Roman Catholic and Anglican communities which desire to preserve their separate systems.

Secondary Schools

The system of secondary education in Wales differs from that of England, mainly owing to the Welsh Intermediate Act, 1889. Before that date, Wales had no distinctive features. There were few grammar schools, mostly of Anglican endowment, few proprietary schools and many private schools of the same character as in England. The endowed grammar schools were as unevenly distributed as in England. Denbighshire, for instance, had five endowed schools, whereas Glamorganshire, with a population of about one-third of the whole population of Wales, possessed only two grammar schools. Monmouthshire and Carmarthenshire had three each, and the remaining counties one or two each. The total number of endowed schools in 1867 was 26. The 152 private schools were all small institutions of doubtful standard. On the whole, Wales was worse provided than England. Considering the denominational character (Anglican) of almost all endowed schools, one can say that the great majority of the population (72 per cent Dissenters) had no provision at all.

A special Departmental Committee was appointed in 1880 to inquire into conditions of intermediate and higher education in Wales. The Committee recommended the establishment of a public undenominational system of intermediate schools for both sexes. Legislation on these lines, however, could not be enacted until the Local Government Act of 1888 established county councils as local authorities. The following year, the Welsh Intermediate Education Act, 1889, realised the recommendations of the Committee. Thus Wales received its system of secondary education thirteen years before England. The new intermediate schools were maintained jointly by county councils and the Treasury. Local authorities were empowered to levy $\frac{1}{4}d$ rate in the \pounds for this purpose, and the Treasury usually supplied a grant of equal amount. The new schools were founded in all districts and were undenominational and, as a rule, co-educational. Ten of the endowed schools were not included in the new system and retained their independence. In 1898, as many as 88 schools were already in existence with 6,877 pupils. Although intermediate schools were originally quite evenly distributed, the rapid growth of population in Glamorganshire and Monmouthshire connected with the immigration of English miners, very soon made the existing provision in these two counties quite insufficient. The Act of 1902 came to the rescue of the growing communities. County councils and county borough councils of Glamorganshire and Monmouthshire began to found secondary schools under the general provisions of this Act. Other counties were sufficiently supplied with intermediate schools and did not use the facilities provided by the 1902 Act, only four schools being opened (one in Brecknockshire, one in Carmarthenshire and two in Denbighshire). As a result, Wales has two systems of public secondary schools: one similar to England and the other under the Welsh Intermediate Act. However, in spite of the additional schools founded by local authorities of Glamorganshire and Monmouthshire, these two counties have the lowest percentages in Wales. We give here the table of regional distribution of percentages calculated on the same principle as for England in Chapter Two.

Analysis of Table 26

We notice at once the unusually high percentages in many counties. With the exception of Monmouthshire, which officially is part of England, all Welsh counties are much better supplied with facilities for secondary education than any of the English areas. This is largely due to different historical tradition of Wales. The old Dissenters of Puritan origin had strong communities in Wales, even in the seventeenth century. When the religious revival of the eighteenth century split the Church of England, the Methodists of Wales followed the Calvinist teachings of Whitefield more than Wesley's tendency towards Arminianism. As a result,

TABLE 26 — SURVEY OF SECONDARY SCHOOLS BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES BY SEXES	(1)	POPULATION 10-11 YEARS IN 1936 (4)		PUPILS OF 10-11 YEARS IN 1936 IN		DIFFERENCE BETWEEN 2 AND 3 + 4	NEW ADMISSIONS TO GRANT- AIDED SECONDARY SCHOOLS IN 1936-7			APPROXIMATE NO OF PUPILS IN EFFICIENT SECONDARY SCHOOLS IN 1937	PERCENTAGE OF COL. 6 TO 1	PERCENTAGE OF COLS 6 + 7 + 8 TO 2
		(2)	(3)	(4)	(5)		(6)	(7)				
									PUBLIC ELEMENTARY SCHOOLS			
NORTH WALES												
Anglesey												
Boys		405	396	—	—	11	155	1	—	—	39.6	38.8
Girls		337	338	—	—	19	137	1	—	—	40.6	38.7
Total		762	734	—	—	30	292	2	—	—	40.1	38.8
Carmarthenshire												
Boys		856	787	—	—	69	274	6	—	—	34.4	32.7
Girls		842	779	—	—	63	243	12	42	—	31.2	35.2
Total		1,698	1,566	—	—	132	517	18	42	—	32.8	33.9
Denbighshire												
Boys		1,255	1,233	1	—	31	343	17	33	—	28.5	31.7
Girls		1,182	1,067	1	—	124	292	11	99	—	27.4	32.9
Total		2,447	2,290	2	—	155	640	28	132	—	28.0	32.2
Flintshire												
Boys		963	968	—	—	—5	230	5	12	—	23.7	25.6
Girls		895	936	—	—	—41	162	4	51	—	17.3	25.3
Total		1,858	1,904	—	—	—46	392	9	63	—	20.6	25.5
Merionethshire												
Boys		329	297	—	—	32	160	2	—	—	53.6	49.2
Girls		339	312	—	—	27	187	29	—	—	60.0	63.4
Total		668	609	—	—	59	347	31	—	—	57.0	56.4
Montgomeryshire												
Boys		470	430	—	—	40	127	2	4	—	29.5	28.3
Girls		402	367	—	—	35	136	2	—	—	37.1	34.3
Total		872	797	—	—	75	263	4	4	—	33.3	37.2
North Wales Total												
Boys		4,279	4,101	1	—	177	1,284	33	49	—	30.9	32.1
Girls		4,027	3,799	1	—	227	1,137	59	192	—	30.2	34.9
Total		8,306	7,900	2	—	404	2,421	92	241	—	30.6	33.4

SOUTH WALES

<i>Becknockshire</i>	488	460	—	28	126	—	2	19	27.4	30.0
Boys	488	460	—	40	142	—	2	—	31.4	28.6
Girls	492	462	—	68	268	—	2	19	29.4	29.2
Total	980	912	—	—	—	—	—	—	—	—
<i>Candigawshire</i>	387	359	—	28	207	—	13	—	67.5	56.8
Boys	387	359	—	18	184	—	4	—	48.9	47.9
Girls	394	376	—	46	391	—	17	—	53.2	52.3
Total	781	735	—	—	—	—	—	—	—	—
<i>Cornarthenshire</i>	1,590	1,573	2	15	387	4	4	16	24.7	25.6
Boys	1,590	1,573	2	15	387	4	4	16	24.7	25.6
Girls	1,505	1,440	1	64	383	2	2	15	28.6	26.6
Total	3,095	3,013	3	79	770	6	6	31	25.6	26.0
<i>Glamorganshire</i>	11,296	10,667	44	385	2,396	85	85	—	22.5	21.9
Boys	11,296	10,667	44	385	2,396	85	85	—	22.5	21.9
Girls	11,259	10,577	69	613	2,374	113	113	34	22.5	22.4
Total	22,555	21,244	113	1,198	4,770	198	198	34	22.5	22.1
<i>Pembrokeshire</i>	719	687	—	32	214	9	9	—	31.2	30.9
Boys	719	687	—	32	214	9	9	—	31.2	30.9
Girls	717	663	—	54	211	15	15	—	31.8	31.5
Total	1,436	1,350	—	86	425	24	24	—	31.5	31.2
<i>Radnorshire</i>	181	194	—	—	42	1	1	—	21.6	23.7
Boys	181	194	—	—	42	1	1	—	21.6	23.7
Girls	178	165	—	13	46	—	—	—	28.0	26.4
Total	359	359	—	0	88	—	—	—	24.8	25.0
<i>South Wales Total</i>	14,661	13,940	46	675	3,372	112	112	35	24.2	24.0
Boys	14,661	13,940	46	675	3,372	112	112	35	24.2	24.0
Girls	14,545	13,673	70	802	3,340	136	136	49	24.4	24.3
Total	29,205	27,613	116	1,477	6,712	248	248	84	24.3	24.1
<i>Monmouthshire</i>	4,121	3,873	3	245	572	23	23	—	14.8	14.4
Boys	4,121	3,873	3	245	572	23	23	—	14.8	14.4
Girls	4,094	3,803	2	289	573	15	15	22	15.0	14.9
Total	8,215	7,676	5	534	1,145	38	38	22	14.9	14.6
<i>Wales and Monmouthshire Grand Total</i>	23,061	21,916	50	1,145	5,238	168	168	84	23.9	23.8
Boys	23,061	21,916	50	1,145	5,238	168	168	84	23.9	23.8
Girls	22,666	21,302	73	1,291	5,070	210	210	263	24.1	24.4
Total	45,727	43,218	123	2,436	10,308	378	378	347	23.9	24.1

they quite readily absorbed the old Puritan tradition and their zeal towards education. On the other hand, the immigration of English miners and other workers gave rise to a strong Labour movement. These two causes explain why Wales is more "progressive" than England and elects comparatively few Conservative members. The Welsh communities, both urban and rural, were ready to tax themselves at a double rate in order to send their children to secondary schools. They have accepted the egalitarian idea of secondary education for all, which partly explains their lukewarm support of senior schools. The table shows also other differences from England. The girls have higher percentages than the boys, with the exception of Flintshire, where the Courtauld's factories divert many girls towards industrial occupation. Another distinctive feature of Wales is the small number of preparatory and private schools. The grant-aided secondary schools are almost entirely supplied with pupils from public elementary schools (96.4 per cent of all admissions). The third feature is the large number of free places and partial fee places. In 1936-7, out of 10,318 ex-elementary school pupils admitted to grant-aided schools, 7,034 received free places and 1,312 partial exemption, that is 80 per cent of all pupils receive special places.

Analysis of Table 27

Table 27 of leavers from grant-aided secondary schools over 14 years has been compiled on the same lines as the table for England. It confirms the conclusions drawn from the English regional figures. In comparison with England, the *wastage* in Wales is greater. Only 41.1 per cent of all leavers over 14 years pass the School Certificate examination, whereas in England the percentage is 49.3 per cent. It is due to the same causes as the regional differences in England. Wales, as a whole, has adopted the policy of 100 per cent special places and the standard of entrance examination is lower than the average for England. It is confirmed by the changes during the period 1924-8 to 1936-7. In all counties where the change of policy led to a large increase of assisted pupils, the percentage of passes decreased. In all urban areas and in Carmarthen, Monmouth, Merioneth and Pembroke, on the contrary, the percentage has risen, as there was no change in standards of entrance examination. In contrast to England, Wales has few pupils coming from preparatory schools and, in consequence, a small percentage of fee-paying pupils. Whereas, in England, 35 per cent of all successful pupils were fee-paying pupils, in Wales they amount only to 19 per cent.

Analysis of Table 28

In Table 28 we compare only the output to the University of Wales with the total admissions to that university. The total number of Welsh pupils proceeding to all universities is slightly

TABLE 27 --LEAVERS FROM GRANT-AIDED SECONDARY SCHOOLS AFTER THE AGE OF 14

		1924-1928						1929-1937					
GEOGRAPHICAL COUNTIES & SCHOOLS	(1)	WITH SCHOOL CERTIFICATE			PROCEEDED TO THIS & VARIETIES			WITH SCHOOL CERTIFICATE			WITH HIGHER CERTIFICATE		
		PERCENT AGE OF FREE TO TOTAL	PERCENT AGE FREE	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL	PERCENT AGE FREE TO TOTAL
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<i>Anglesey</i>													
Boys		16.0	59.7	72.3	5.5	18.1	69.2	24.0	45.1	87.5	—	1.1	100
Girls		17.9	48.2	54.7	3.2	9.4	57.1	15.4	33.3	85.2	—	5.8	100
<i>Brecknockshire</i>													
Boys		28.4	39.7	74.6	2.8	7.0	84.2	78.9	39.2	77.3	5.3	3.1	80.0
Girls		25.6	40.4	68.2	2.6	8.0	81.0	30.8	41.1	92.7	—	4.0	100
<i>Carmarthenshire</i>													
Boys		24.0	58.6	57.2	6.5	20.9	63.0	32.3	39.4	70.0	4.0	6.9	76.5
Girls		21.1	61.4	62.6	4.6	13.8	63.2	25.3	37.8	74.0	1.9	6.4	90.9
<i>Cardiganshire</i>													
Boys		12.5	46.1	66.0	1.4	11.0	80.0	30.6	51.7	80.0	3.2	4.2	75.0
Girls		16.6	51.0	64.4	3.2	9.9	64.5	23.5	35.1	73.9	—	6.4	100
<i>Caermarthenshire</i>													
Boys		19.5	57.0	62.6	3.6	14.3	69.7	44.4	61.3	68.0	2.4	8.4	84.2
Girls		19.5	50.2	57.6	3.6	9.6	57.8	28.2	51.6	71.3	3.6	5.4	66.6
<i>Denbighshire</i>													
Boys		15.0	50.3	72.7	2.5	11.1	77.9	20.4	47.0	85.5	1.0	7.2	94.7
Girls		12.6	43.8	72.5	0.8	6.9	87.5	22.4	44.2	83.2	3.5	4.9	77.0
<i>Flintshire</i>													
Boys		14.6	43.9	66.2	1.7	9.2	77.7	15.4	41.3	89.2	—	7.5	100
Girls		16.2	51.9	67.6	1.4	5.5	71.4	12.0	32.8	88.0	—	3.7	100

TABLE 27—continued

GEOGRAPHICAL COUNTIES BY SEXES	1924-1928										1930-1937			
	WITH SCHOOL CERTIFICATE					PROCEEDED TO THE UNIVERSITIES					WITH SCHOOL CERTIFICATE		WITH HIGHER CERTIFICATE	
	PER PAYING PERCENT- AGE	FREE PERCENT- AGE	PERCENT- OF FREE TO TOTAL	PERCENT- AGE FREE PERCENT- AGE	FREE PERCENT- AGE	PERCENT OF FREE TO TOTAL	PERCENT AGE FREE PERCENT- AGE	FREE PERCENT- AGE	PERCENT AGE FREE PERCENT- AGE	PERCENT AGE FREE PERCENT- AGE	FULL PERCENT- AGE	PERCENT AGE FREE PERCENT- AGE	FULL PERCENT- AGE	PERCENT AGE FREE PERCENT- AGE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<i>Glamorgan</i>	27.2	43.8	76.4	6.7	11.4	77.5	53.1	47.2	84.6	8.1	7.8	85.6		
Boys	26.7	36.9	72.7	5.5	7.7	75.3	34.4	33.9	84.3	3.4	4.8	88.7		
Girls	22.6	34.1	61.9	8.0	10.8	59.3	18.4	46.9	88.1	—	4.5	100		
<i>Merionethshire</i>	18.5	31.7	64.2	5.1	6.8	57.1	22.8	34.3	76.0	—	6.9	100		
Boys	24.5	34.8	73.7	4.4	6.9	74.8	43.5	51.0	78.8	6.4	7.5	78.7		
Girls	22.9	33.8	79.7	3.2	4.4	78.4	33.6	37.6	82.1	5.9	5.0	78.6		
<i>Monmouthshire</i>	17.7	48.3	68.3	3.3	9.8	70.0	18.8	26.8	68.0	2.1	2.8	66.6		
Boys	28.9	41.8	60.7	3.1	5.9	66.6	23.8	41.3	75.6	9.5	6.7	55.5		
<i>Montgomeryshire</i>	9.8	34.3	73.3	1.1	3.2	69.2	27.2	45.2	72.7	4.9	3.2	50.0		
Boys	10.1	39.8	77.2	1.2	1.7	55.5	21.4	41.1	77.3	1.2	3.5	83.3		
Girls	9.4	22.2	82.3	—	4.8	100	28.6	37.0	83.3	—	3.7	100		
<i>Pembrokeshire</i>	20.6	30.3	76.6	5.9	1.3	33.3	25.0	33.3	90.0	—	3.7	100		
Boys	21.3	43.5	72.1	4.7	10.8	74.3	39.0	47.3	81.0	4.7	7.0	83.9		
Girls	21.3	39.0	70.4	3.8	7.1	70.7	30.3	38.1	81.1	3.0	4.8	84.5		
<i>Radnorshire</i>														
Boys														
Girls														
<i>Wales and Monmouthshire</i>														
Boys														
Girls														

TABLE 28—OUTPUT TO THE UNIVERSITY OF WALES

YEARS	PUPILS OF GRANT AIDED SECONDARY SCHOOLS OVER 14 PROCEEDING TO THE UNIVERSITY OF WALES						ONE YEAR LATER			
	BOYS			GIRLS			PERCENTAGE TO TOTAL LEAVERS OVER 14			
	OTHER PUPILS			OTHER PUPILS			BOYS	GIRLS	MEN	WOMEN
	BY PUBLIC ELEMENTARY SCHOOL PUPILS	BY PUBLIC ELEMENTARY SCHOOL PUPILS	OTHER PUPILS	BY PUBLIC ELEMENTARY SCHOOL PUPILS	BY PUBLIC ELEMENTARY SCHOOL PUPILS	OTHER PUPILS				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1924-5	237	27	181	27	79	59	386	61.4	280	69.6
1925-6	212	22	175	34	69	59	403	52.6	246	71.9
1926-7	234	24	187	32	65	4.2	434	53.9	198	69.2
1927-8	235	23	186	33	65	5.0	439	53.5	226	65.4
1928-9	257	31	161	24	76	5.3	479	53.6	227	70.9
1929-30	314	30	149	33	92	5.6	523	60.0	205	72.7
1930-1	351	18	176	29	99	5.6	629	55.8	251	70.1
1931-2	384	29	170	29	105	4.9	670	57.3	240	70.8
1932-3	426	32	164	30	101	4.5	705	60.4	240	68.3
1933-4	301	39	156	25	92	4.0	613	63.7	220	71.8
1934-5	354	13	160	14	73	3.9	560	63.2	202	79.2
1935-6	302	17	120	15	62	3.0	525	57.5	180	66.6
1936-7	251	16	129	14	49	3.0	No data yet			

We have excluded the Diploma Students over 19 years from total admissions

TABLE 29—TECHNICAL AND VOCATIONAL EDUCATION BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES	POPULATION 15-18 YEARS		PUPILS 13-18 YEARS			STUDENTS OVER 15 YEARS			PERCENTAGES OF			
(1)	URBAN (2)	RURAL (3)	FULL TIME (4)	PART TIME (5)	FULL TIME (6)	PART TIME (7)	COLL. 14-15 TO 2+3 (8)	COLL. 16-17 TO 18+ (9)	COLL. 18-19 TO 20+ (10)	COLL. 20-21 TO 22+ (11)	COLL. 22-23 TO 24+ (12)	COLL. 24-25 TO 26+ (13)
<i>Anglesey</i>												
Boys	844	1,400	—	49	—	77	—	22	58	—	—	34
Girls	790	1,355	—	39	—	373	—	18	50	—	—	267
Total	1,634	2,755	—	88	—	650	—	20	54	—	—	148
<i>Breconshire</i>												
Boys	765	2,047	—	227	—	515	—	71	296	—	—	183
Girls	732	1,922	—	155	—	423	—	58	212	—	—	159
Total	1,497	3,969	—	382	—	938	—	65	254	—	—	171
<i>Carmarthenshire</i>												
Boys	2,329	2,571	—	194	—	230	—	40	83	—	—	57
Girls	2,425	2,293	—	150	—	489	—	32	62	—	—	103
Total	4,754	4,864	—	344	—	769	—	36	73	—	—	80
<i>Cardiganshire</i>												
Boys	537	1,695	—	94	—	234	—	42	175	—	—	105
Girls	554	1,681	—	129	—	612	—	58	233	—	—	273
Total	1,091	3,376	—	223	—	846	—	50	204	—	—	189
<i>Carmarthenshire</i>												
Boys	3,420	5,084	5	930	8	1,777	—	110	273	—	—	210
Girls	3,422	5,145	5	807	9	1,972	—	94	238	—	—	231
Total	6,842	10,229	10	1,737	17	3,749	—	102	255	—	—	219
<i>Denbighshire</i>												
Boys	2,143	4,898	97	1,104	—	1,401	—	176	455	—	—	200
Girls	2,170	4,826	—	674	—	1,344	—	95	311	—	—	192
Total	4,313	9,714	97	1,778	—	2,745	—	125	435	—	—	196
<i>Ffestiow</i>												
Boys	4,000	3,036	—	853	—	737	—	121	214	—	—	105
Girls	4,073	2,923	—	638	—	1,130	—	96	169	—	—	161
Total	8,073	5,959	—	1,546	—	1,867	—	108	191	—	—	123
<i>Glamorganshire</i>												
Boys	54,379	9,583	681	6,769	487	10,247	—	117	137	—	—	168
Girls	53,080	9,351	62	4,030	140	11,701	—	66	190	—	—	190
Total	107,459	18,934	743	10,799	627	21,948	—	92	107	—	—	179

Merionethshire

Boys	806	1,013	—	145	—	235	80	180	129
Girls	765	1,043	—	69	—	379	38	90	209
Total	1,571	2,058	—	214	—	614	59	135	169

Monmouthshire

Boys	20,988	2,569	613	1,396	41	2,293	86	96	97
Girls	20,452	2,605	102	786	30	1,304	39	44	62
Total	41,440	5,174	715	2,182	71	3,597	62	70	74

Montgomeryshire

Boys	759	1,492	—	41	—	43	18	54	19
Girls	730	1,450	—	36	—	444	16	50	204
Total	1,489	2,942	—	77	—	487	17	52	110

Pembrokeshire

Boys	1,973	2,253	—	61	—	209	14	31	49
Girls	1,885	2,170	—	67	—	293	17	36	72
Total	3,858	4,423	—	128	—	502	15	33	60

Radnorshire

Boys	214	765	—	4	—	15	04	18	15
Girls	201	682	—	27	—	301	31	134	342
Total	415	1,447	—	31	—	316	17	76	170

Wales Total (including Monmouthshire)

Boys	93,162	38,398	1,396	11,872	536	17,993	101	142	141
Girls	91,279	37,447	169	7,667	266	21,055	61	86	166
Total	184,441	76,045	1,565	19,539	802	39,048	81	114	153

AGRICULTURAL EDUCATION IN WALES

	AGES 14-21		NUMBER OF STUDENTS				ALL OTHER COURSES	TOTAL STUDENTS	PERCENTAGES OF	
	RURAL POPULATION	OCCUPIED IN AGRICULTURE	FARM INSTITUTES	ORGANISED DAY COURSES	EVENING CLASSES				\$ TO 2	\$ TO 3
Males	49,942	15,583	245	286	3,096	622	4,249	85	272	—
Females	44,344	1,229	238	751	449	—	1,438	32	1169	—
Total	94,286	16,812	483	1,037	3,545	622	5,687	59	338	—
Welsh County Boroughs	—	—	62	247	477	—	786	—	—	—
Both Sexes	—	—	—	—	—	—	—	—	—	—

higher, since a number of them enter English universities. Our percentages in columns 6 and 7 have to be increased, therefore, to get the true percentage of all leaving proceeding to universities. The increase would be about 2 per cent for boys and 1 per cent for girls. In the table we notice the same tendency as in England. There was a constant increase of ex-public elementary school pupils in numbers and in percentages up to 1932-3, and then a considerable decrease. There is a notable lag before tendency shows itself in Wales, the maximum was reached two years later. In consequence of different composition of pupils of secondary schools in Wales, the percentage of ex-public elementary school students is much higher than in England.

Technical Education

Technical education was developed on similar lines as in England, but owing to the rural character of the country, it is centred largely in the industrial districts of Glamorganshire and Monmouthshire in the south, and Denbighshire in the north. In other counties, only part-time evening classes are organised. Commercial education is very little developed in comparison with England. Table 29 on page 224 shows the regional variation.

We notice the same features as in England: in full-time instruction, males outnumber females, in part-time instruction the contrary is the fact. On the whole, Wales is behind England in technical education, which is explained partly by greater attention being paid to secondary education.

Agricultural Education

In agricultural education, Wales is much better supplied with institutions than England. Wales has four farm institutes (Carmarthenshire, Carmarthenshire, Denbighshire and Monmouthshire) for an agricultural population (14-21 years) of 16,812, whereas England has 13 institutes for a population of 166,755, or three times more population per institute than Wales. In part-time instruction, the same advantage is maintained.

Finances

In elementary education, there was no difference in financial policy and the same formulæ were applied in Wales. As in England, the factors of ability and necessity are considered. On the whole, Wales receives from the Treasury a larger percentage of its expenditure (58.8 per cent) than England (48.9 per cent), but on the other hand the rates in Wales are much higher. In Wales, the average rate in the £ to meet the expenditure is 50 *1d*, whereas in England it is only 29 *1d*. The ability of Wales, expressed in product of 1 *d* rate per child in average attendance, is only 2s 5*d* as against 5s in England. Table 30 on page 227 gives the figures for selected Welsh authorities.

TABLE 30—FINANCE OF ELEMENTARY EDUCATION BY TYPE OF L.E.A.

* ALL L.E.A. SELECTED	PRODUCT OF 1d RATE PER CHILD IN AVERAGE ATTEND- ANCE		TOTAL EXPENDITURE FROM PUBLIC FUNDS TAXES & RATES		PERCENTAGE OF BOARD OF EDUCA- TION GRANTS		RATE IN THE £ TO MEET THE EXPENDI- TURE		COST PER CHILD IN AVERAGE ATTEND- ANCE			PERCENTAGE OF CHILDREN PASSING TO SENIOR SCHOOLS	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Radnorshire		s	£	PERCENTAGE	d	£	s	d	PERCENTAGE				
Cardiff C.B.		6	41,351	47.4	27 0	16	10	8	0				
Newport C.B.		4	431,916	51.0	30 1	14	9	3	29				
Swansea C.B.		4	176,187	50.4	31 9	13	6	9	31.7				
Wrexham B.		3	343,183	52.5	41 2	14	15	11	39.7				
Carmarvonshire		3	38,681	56.0	30 7	11	15	6	72.3				
Denbighshire		3	217,054	54.3	43 3	15	2	8	44.7				
Glamorganshire		1	215,857	54.4	41 2	13	14	0	36.3				
Glamorganshire		1	879,440	58.6	69 2	15	18	7	12.9				
Monmouthshire		1	557,234	60.8	64 9	13	14	4	12.1				
Aberdare U.D.		1	132,160	68.5	72 2	19	9	4	29.6				
Carmarthenshire		1	244,862	59.7	82 7	14	1	3	17.5				
Ebbw Vale U.D.		1	74,143	64.3	78 6	14	19	4	18.8				
Rhondda U.D.		1	370,181	69.7	82 1	16	12	2	31.4				
Mountain Ash U.D.		1	110,903	71.0	83 1	17	2	11	62.9				
Abertillery U.D.		1	86,102	69.6	95 5	16	19	1	83.2				
Total Wales		2	5,298,009	58.8	50 1	14	17	1	21.4				

In secondary education, Wales has an additional grant under the Welsh Intermediate Act, equal annually to £29,000 which, however, in an expenditure of over £1,000,000, influences but slightly the percentage of State grants. On the other hand, owing to very few direct-grant schools, Wales does not profit much from direct grants. Table 31 on page 230, compiled on the same lines as that for England, gives the variation by regions.

Comparing these figures with those for England, we notice much higher expenditure for an adolescent of the five years group, both from taxes and rates. Owing to the adoption of co-education in the majority of schools, the difference between the sexes is less noticeable than in England. The influence of Welsh intermediate grants has raised the percentages only in a few counties, especially in Montgomeryshire. The application of the 50-50 formula produced the same regional variation as in England. The lowest expenditure is in Monmouthshire and the highest in Merionethshire, which corresponds to the percentages of the age-group admitted to secondary schools. The expenditure on higher education, including technical, shows the same disregard of the factor of ability as in England. Richer areas receive larger amounts from grants and levy lower rates than the poorer (see Table 32 on page 231).

Compare, for instance, Cardiff and Merthyr Tydfil, or Denbighshire and Glamorganshire (Table 32).

In agricultural education, Wales receives a grant from the Ministry of Agriculture amounting to 60 per cent of the expenditure of local authorities. The total expenditure of Welsh authorities in 1936-7 equalled about £2 per head of agricultural population of 14-21 years of age, whereas in England it was only £1 4s per head.

N HANS

TABLE 31—FINANCE OF GRANT-AIDED SECONDARY SCHOOLS BY GEOGRAPHICAL COUNTIES

GEOGRAPHICAL COUNTIES BY SEVER.	POPULATION 0-11 YEARS IN 1901	EXPENDITURE ON MAINTENANCE FROM PUBLIC FUNDS (SECONDARY SCHOOLS)			PERCENTAGE FROM BOARD OF EDUCATION GRANTS	EXPENDITURE PER HEAD OF THE 5 YEARS GROUP			PERCENTAGE OF AN AGE GROUP IN SECONDARY SCHOOLS
		LEA	INDIRECT GRANT	DIRECT GRANT		GRANTS	RATES	TOTAL	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Angley</i>		£	£	£		£	£	£	
Boys	2,202	—	11,700	—	50 0	53 2	53 2	106 4	38 8
Girls	2,046	—	8,200	—	50 0	41 0	41 0	82 0	38 7
Total	4,248	—	19,910	—	50 0	46 10	46 10	93 8	38 8
<i>Brecknockshire</i>									
Boys	2,710	14,500	—	—	50 0	53 8	53 8	107 4	25 8
Girls	2,670	14,500	—	—	50 0	54 3	54 3	108 7	29 3
Total	5,380	29,044	—	—	50 0	53 10	53 11	107 9	27 6
<i>Canarywharf</i>									
Boys	4,905	—	23,600	—	50 4	58 9	57 11	116 8	32 7
Girls	4,737	—	20,000	—	50 4	55 8	54 10	110 6	30 3
Total	9,642	—	43,627	—	50 4	57 1	56 3	113 4	31 5
<i>Cardigan</i>									
Boys	2,113	14,000	—	966	52 0	74 2	68 5	142 7	56 8
Girls	2,162	12,000	—	—	50 0	55 6	55 7	111 1	47 7
Total	4,275	26,072	—	966	51 1	62 4	59 6	121 10	52 2
<i>Carmarthen</i>									
Boys	8,382	4,000	27,300	—	51 0	37 10	36 6	74 4	24 6
Girls	8,448	3,000	25,000	—	51 0	31 0	32 7	66 7	25 4
Total	16,830	6,977	52,275	—	51 0	35 10	34 6	70 4	25 0
<i>Denbighshire</i>									
Boys	6,902	4,000	30,298	—	50 7	50 3	48 10	99 1	29 1
Girls	6,869	8,200	18,150	—	49 4	37 9	39 0	76 9	25 5
Total	13,761	12,171	48,448	—	50 2	44 3	43 10	88 1	27 3
<i>Flintshire</i>									
Boys	5,042	—	20,000	—	50 0	40 0	40 0	80 0	24 4
Girls	4,933	—	14,000	—	50 0	30 0	30 0	60 0	18 5
Total	9,975	—	34,007	—	50 0	34 9	34 4	69 6	21 5

TABLE 31—continued

GEOGRAPHICAL COUNTIES BY SEVES	POPULATION 6-11 YEARS IN 1901	EXPENDITURE ON MAINTENANCE FROM PUBLIC FUNDS (SECONDARY SCHOOLS)			PERCENTAGE OF EDUCATION GRANTS	EXPENDITURE PER HEAD OF THE 3 YEARS GROUP			PERCENTAGE OF AN AGE GROUP IN SECONDARY SCHOOLS
		LEA	INDIRECT GRANT	DIRECT GRANT		GRANTS	RATES	TOTAL	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Glamorganshire</i>									
Boys	63,281	147,900	101,000	£ 6,040	51.0	£ 41.0	5 ^s 4 ^d	80 6	21.9
Girls	61,851	145,460	88,560	4,752	56.1	38 7	38 6	77 1	22.1
Total	125,132	293,365	189,563	10,772	56.6	40 0	39 0	79 0	22.0
<i>Merionethshire</i>									
Boys	1,856	—	14,800	—	50.0	79 6	79 7	159 1	49.2
Girls	1,800	—	11,500	2,561	55.5	86 7	69 6	156 1	63.4
Total	3,656	—	26,308	2,561	52.1	82 3	75 7	157 10	56.4
<i>Monmouthshire</i>									
Boys	23,020	45,000	18,000	13,048	57.2	37 9	28 4	66 1	14.4
Girls	22,615	38,400	28,000	4,462	50.6	31 8	31 0	62 8	14.4
Total	45,635	83,363	46,003	17,510	54.0	34 8	29 9	64 5	14.4
<i>Montgomeryshire</i>									
Boys	2,291	—	10,900	—	55.0	52 3	42 9	95 0	27.5
Girls	2,177	—	11,000	—	55.0	55 5	45 5	100 10	34.3
Total	4,468	—	21,952	—	55.0	53 10	44 2	98 0	30.9
<i>Pembrokeshire</i>									
Boys	4,207	—	19,000	—	45.0	40 8	49 10	90 6	31.0
Girls	3,934	—	16,000	—	45.0	37 8	44 4	82 0	31.5
Total	8,141	—	35,035	—	45.0	39 0	47 9	86 9	31.3
<i>Radnorshire</i>									
Boys	990	5,000	—	—	50.0	50 6	50 6	107 0	23.7
Girls	905	5,760	—	—	50.0	63 3	63 4	126 7	25.8
Total	1,895	10,766	—	—	50.0	56 9	56 9	113 6	24.7
<i>Wales and Monmouthshire Total</i>									
Boys	127,801	234,460	281,500	20,054	51.3	43 0	40 9	83 9	23.8
Girls	125,237	227,260	247,500	11,755	50.5	39 3	38 4	77 7	24.1
Total	253,138	461,688	528,728	31,809	51.0	41 2	39 6	80 8	24.0

TABLE 32.—VARIATIONS IN FINANCE BY TYPE OF L.E.A.

L.E.A.	(1)	1d RATE PER CHILDOF 5 YEARS GROUP	TOTAL PAYMENT TOWARDS TAXES + RATES	PERCENTAGE FROM THE BOARD OF EDUCATION	EXPENDITURE PER CHILDOF THE 5 YEARS GROUP		TOTAL	RATE IN 1947 £ TO PUNCE EXPENDITURE
					GRANTS	RATES	(7)	(8)
		(2)	(3)	(4)	(5)	(6)	(7)	(8)
				PERCENTAGE	£	£	£	£
Radnorshire	8	6	12,408	53.2	69 7	61 3	130 10	7.2
Cardiff C.B.	6	7	158,381	62.4	79 1	71 10	150 11	10.7
Newport C.B.	6	5	57,336	51.1	68 7	65 10	134 5	10.2
Swansea C.B.	5	2	104,711	53.6	72 7	63 0	135 7	12.3
Carmarvonshire	4	8	68,438	52.7	74 8	67 2	141 10	14.1
Pontshire	4	5	54,254	52.7	67 4	51 4	108 8	11.6
Denbighshire	4	4	90,219	52.6	69 0	62 2	131 2	14.5
Brecknockshire	3	10	41,958	49.3	76 10	79 2	156 0	20.2
Merionethshire	3	5	36,406	53.6	106 9	92 8	199 5	27.2
Cardiganshire	3	0	27,478	52.7	87 8	60 10	128 6	20.4
Anglesey	2	10	25,180	52.6	62 3	50 1	118 4	19.2
Montgomeryshire	2	10	25,333	53.6	90 1	53 2	113 3	18.0
Carmarthenshire	2	5	58,705	51.2	53 8	51 9	105 5	21.2
Glamorganshire	2	5	503,984	50.5	61 4	60 2	121 6	24.8
Pembrokeshire	2	5	45,147	51.6	57 10	54 4	112 2	22.4
Monmouthshire	2	2	203,185	53.0	58 0	51 6	109 6	24.0
Merthyr Tydfil C.B.	2	2	46,436	49.3	62 10	64 9	127 7	28.0
Wales and Monmouthshire	3	6	1,569,775	51.2	63 5	60 7	124 0	17.6

PART THREE

Survey of Finance in the United Kingdom

CHAPTER ONE

SURVEY OF EDUCATION EXPENDITURE IN ENGLAND AND WALES

(See also YEAR BOOK, 1938, pages 132-8)

Total Expenditure

THE YEAR BOOK for 1933 contained a detailed survey of expenditure in England and Wales between 1923 and 1933. The main outlines of this survey were brought up to date in subsequent YEAR BOOKS, and are continued in the present volume. Readers will find the figures of the years 1924-5 to 1932-3 in the volumes for 1934 and 1935.

The table on page 233 shows the growth of educational expenditure during recent years, with the 1923-4 figures for comparison, and analyses the burden falling on the central government and the local authorities respectively (Table 1). This table does not cover all the expenditure borne on the estimates of the Board of Education. It excludes expenditure on museums and on miscellaneous items. It also excludes the Board's direct expenditure on Aid to Students (referred to below), and under the Physical Training and Recreation Act, 1937. As the figures of the Board's grants to local education authorities are figures of the grants due to local authorities for the year, only 90 per cent of which are payable in the year, the figures cannot be exactly reconciled with the returns of the Board's actual expenditure in any given year. Figures of grants for the year, however, are the only basis on which to estimate the trend of educational expenditure.

Central Expenditure

The conclusions to be drawn from these figures can be briefly summarised. Between 1923-4 and 1938-9 central expenditure has increased by £9,786,000 (line 13 of the table), but of this total £1,616,000 is accounted for by the increase in the Board's net expenditure on Teachers' Pensions (line 8) under the contributory superannuation scheme. To this £1,616,000 should be added the Board's grants to local authorities in respect of their contributions to this superannuation scheme for 1938-9, i.e. £1,504,000. It must be remembered that these contributions from local authorities represent a burden transferred from the central government to the local authorities in 1928-9. Apart, therefore, from teachers' pensions, central expenditure is £6,660,000 more than fifteen years ago.

This increase in central expenditure is made up as follows:

Increase in the Board's grants to local authorities	£ 8,646,000
Less Board's grants in respect of pension contributions	1,504,000
Net increase in the Board's grants to local authorities for purposes other than pensions	£ 7,142,000
Less reduction in the Board's grants to non-local authority institutions (mainly a transfer from taxes to rates, owing to these institutions electing to receive grant from the local authorities instead of from the Board) and	407,000
Reduction in the Board's administrative expenditure	69,000
	476,000
Net increase in central expenditure	£ 6,666,000

TABLE 1
PUBLIC EXPENDITURE ON EDUCATION WITHIN THE
PURVIEW OF THE BOARD OF EDUCATION

		('000's)						
		1925-6	1928-9	1931-2	1935-6	1938-7	1937-8	1938-9 ²
1	L.E.A.'s Expenditure							
	Elementary	51,162	57,366	60,880	63,211	64,741	65,777	67,128
2	Higher	10,461	11,851	15,070	16,515	17,760	18,610	19,170
3	Administration	3,183	3,406	3,531	3,668	3,801	4,780	3,980
4	Contributions to teachers' pensions							
5	Elementary teachers	---	1,918 ³	2,015 ³	2,101 ³	2,108 ³	2,188 ³	2,195 ³
6	Higher teachers	---	287 ³	708 ³	336 ³	319 ³	360 ³	380 ³
7	Board's Grants to Non L.E.A. Institutions							
8	Elementary	81	61	62	63	64	68	68
9	Higher	1,911	1,441	1,161	1,162	1,621	1,666	1,652
10	Board's Net Expenditure on Teachers' Pensions	618	1,119	1,226	1,200	1,482	1,791	2,164
11	Board's Expenditure on Administration and Inspection	766	621	690	616	662	681	697
	Total Expenditure	70,627	81,472	81,764	85,791	92,620	94,712	97,921
ANALYSIS CENTRAL AND LOCAL EXPENDITURE								
12	Exchequer Grants to L.E.A.'s							
13	Elementary	51,717 ¹	50,360 ²	51,701 ²	53,899 ²	54,614 ²	55,107 ²	56,171 ²
14	Higher	5,280	7,770 ²	8,202 ²	8,830 ²	9,400 ²	9,689	10,160 ²
15	Board's Other Expenditure above	3,331	3,578	3,821	3,166	3,780	1,102	4,171
16	Total Central Expenditure	10,528	11,707	13,224	15,295	17,853	16,898	18,511
17	Expenditure from Rates	30,699	30,765	41,629	15,676	44,768	16,761	47,510

¹ Grants for the year include long grants in respect of local expenditure on administration and contributions to teachers' pensions

² From 1928-9 the Board's grants include grant on local authorities' contributions towards teachers' pensions which may be roughly estimated at about 50 per cent of the contributions

³ Estimates figures

To this increase, however, must be added an increase in the Board's expenditure on aid to students in the fifteen years from £152,582 to £216,240, an increase of £63,658, which is more than accounted for by an increase of expenditure on State scholarships at universities from £24,639 to £139,800

Local Expenditure¹

Meanwhile, expenditure from rates has increased by £17,211,000 or, excluding pension contributions, by £16,140,000. This increase of £16,140,000 is accounted for as follows

Increase in local expenditure	£23,282,000
Less Increase in Board's grants as above	7,142,000
Total added burden on the rates	£16,140,000

¹ Beginning with the year 1930-1, Block Grants have been paid by the Exchequer to local authorities under the Local Government Act, 1929. These grants are available in aid of the total expenditure of the authority (including educational expenditure). The expenditure here referred to as expenditure from rates has been met, since 1930-1, partly from rates and partly from the Block Grants, but it is not possible to say in what proportion,

TABLE 2
EXPENDITURE OF LOCAL EDUCATION AUTHORITIES
ELEMENTARY EDUCATION

(£000's)

The figures in italics represent cost per unit of average attendance

	ASSUMED FOR BOARD'S ESTIMATES						
	1923-4	1933-4	1934-5	1936-6	1937-7	1937-8	1938-9
Teachers' Salaries	41,019 <i>163s 3d</i>	39,047 <i>164s 2d</i>	40,872 <i>166s 7d</i>	41,182 <i>181s 10d</i>	45,802 <i>190s 11d</i>	48,807 <i>192s 5d</i>	48,884 <i>197s 5d</i>
Loan Charges on Schools	2,831 <i>11s 8d</i>	3,078 <i>12s 2d</i>	3,086 <i>12s 7d</i>	3,130 <i>13s 2d</i>	3,101 <i>13s 5d</i>	3,000 <i>13s 2d</i>	2,950 <i>13s 3d</i>
Administration	2,078 <i>10s 3d</i>	2,627 <i>10s 4d</i>	2,705 <i>11s 1d</i>	2,797 <i>11s 10d</i>	2,884 <i>12s 7d</i>	2,800 <i>12s 6d</i>	3,000 <i>13s 6d</i>
Other Expenditure	7,603 <i>29s 10d</i>	8,579 <i>37s 10d</i>	10,029 <i>40s 11d</i>	10,793 <i>45s 5d</i>	10,710 <i>46s 8d</i>	11,000 <i>48s 4d</i>	11,100 <i>51s 4d</i>
Conveyance of Children	Included in "Other Expenditure"					400 <i>1s 9d</i>	120 <i>1s 11d</i>
Special Services ¹ (including loan charges)	2,696 <i>10s 9d</i>	4,407 <i>18s 6d</i>	4,925 <i>20s 1d</i>	5,183 <i>21s 10d</i>	5,171 <i>23s 10d</i>	5,700 <i>26s 1d</i>	6,200 <i>27s 11d</i>
Maintenance Allowances	—	01 <i>0s 3d</i>	60 <i>0s 3d</i>	71 <i>0s 4d</i>	61 <i>0s 4d</i>	70 <i>0s 4d</i>	70 <i>0s 4d</i>
Special Reorganisation and Development	—	901 <i>3s 7d</i>	902 <i>3s 8d</i>	855 <i>3s 9d</i>	1,55d <i>6s 8d</i>	1,800 <i>7s 11d</i>	2,500 <i>11s 5d</i>
Employers' Pension Contributions	—	1,918 <i>7s 9d</i>	2,043 <i>8s 3d</i>	2,103 <i>9s 1d</i>	2,198 <i>9s 7d</i>	2,185 <i>9s 7d</i>	2,195 <i>9s 11d</i>
Total	50,780 <i>225s 9d</i>	61,941 <i>241s 7d</i>	64,628 <i>263s 5d</i>	66,204 <i>287s 3d</i>	69,814 <i>304s 6d</i>	70,810 <i>311s 1d</i>	72,623 <i>327s 1d</i>
¹ Divided as follows							
Provision of meals	152	557	601	613	608	650	800
Other Services	2,544	4,410	4,331	4,570	4,803	5,050	5,400

Tables 2 and 3 (pages 234 and 236) analyse the local expenditure on elementary and higher education respectively, including administration. A comparison between these tables will show that the total increase of £25,857,000 in local expenditure between 1923-4 and 1938-9 is made up of an increase of £15,893,000 on elementary and an increase of £9,964,000 on higher education, including administration in both cases.

The increase on elementary education is distributed as follows

	Increase £
Teachers' Salaries (See Note on page 235)	2,869,000
Loan Charges	16,000
Administration and Other Expenditure (including Conveyance of Children)	4,739,000
Special Services	3,504,000
Maintenance Allowances	70,000
Special Reorganisation and Development	2,500,000
Employers' Pension Contributions	2,195,000
Total	<u>£15,893,000</u>

The increased expenditure by L E A s on higher education is distributed as follows

Training of Teachers	4,000	decrease
Secondary Schools and Aid to Students	5,015,000	
Technical Schools	2,862,000	
Loan Charges	1,180,000	
Administration	375,000	
Other Expenditure	156,000	
Employers' Pension Contributions	380,000	
Net Increase	<u>£9,964,000</u>	

Teachers' Salaries—Elementary Education

The increase of £2,869,000 during the fifteen years is due mainly to an increase in the numbers and an improvement in the quality of the teaching staff and a reduction in the size of classes. The changes in the composition of the teaching staff have been as follows

	MARCH 31ST	
	1924	1937
Certificated Teachers (Men)	36,925	44,484
Certificated Teachers (Women)	70,173	87,291
Uncertificated Teachers	32,524	25,165
Special Subjects Teachers (other than Certificated)	3,890	5,833
Supplementary Teachers	10,709	5,241
Total	163,221	168,014

On March 31st, 1924, there were 24,958 classes with over fifty children on the registers, whilst on March 31st, 1937, there were only 2,646 such classes. In the same period, although the average attendance fell by 436,261, viz from 5,024,559 to 4,588,298, the number of classes fell by only 28, viz from 147,177 to 147,149.

The Burnham scales which govern the rates of pay of teachers were introduced by three annual stages as from April 1st, 1921, but in the third year, 1923-4, before they were in full operation, the teachers made a voluntary abatement of 5 per cent and continued it for 1924-5. A fresh award operated as from April 1st, 1925, which had the general effect of reducing by about 2½ per cent the rates of remuneration prevailing immediately before the award. In the financial emergency of 1931, teachers' salaries were cut by 10 per cent as from October 1st, 1931. Half the cut was remitted as from July 1st, 1934, and the remaining half as from July 1st, 1935.

Up to March 31st, 1936, there were four different scales, but the lowest (Scale I) was abolished as from April 1st, 1936.

The highest (Scale IV) obtains in Greater London and Scale II in the agricultural counties. That known as Scale III contains the greatest number of teachers and approximates closely to the average.

To set out in detail the three scales would occupy considerable space, but stripped of technicalities and complications, they may be said to offer the following prospects to a man or a woman, assumed to have gained his

TABLE 3
EXPENDITURE OF LOCAL EDUCATION AUTHORITIES
HIGHER EDUCATION

(£'000's)

	ASSUMED FOR THE BOARD'S ESTIMATES						
	1933-4	1933-4	1934-5	1935-6	1936-7	1937-8	1938-9
Training of Teachers	324	244	252	275	205	200	320
Secondary Schools ¹	4,406	6,503	7,643	8,366	8,726	9,020	9,300
Technical Schools	2,938	3,083	4,359	4,842	5,148	5,430	5,800
Loan Charges	720	1,665	1,688	1,674	1,710	1,820	1,900
Administration	605	782	826	871	917	930	980
Aid to Students	1,589	2,309	1,552	1,572	1,632	1,650	1,800
Other Expenditure	194	180	176	186	269	300	350
Employers' Pension Contributions	—	287	308	335	340	360	380
Total	10,866	15,953	16,804	18,121	19,046	19,800	20,830
¹ Cost per pupil in Maintained Secondary Schools (omitting loan charges, aid to students, administration)					(TWO VISIONAL)		
Gross Expenditure	£ s	£ s	£ s	£ s	£ s		
Salaries	20 16	17 16	18 11	19 15	20 5	—	—
Other	5 11	6 6	6 11	6 18	7 2	—	—
Employers' Pension Contributions	—	— 18	— 18	— 10	1 0	—	—
Total Gross Expenditure	26 7	25 0	26 0	27 12	28 7	—	—
Receipts	7 1	6 10	5 6	5 8	5 9	—	—
Net Expenditure	19 6	18 4	20 14	22 4	22 18	—	—

NOTE.—Following the issue of a Memorandum by the Board of Education in 1934, certain changes were made in the treatment of fees in L.E.A.s' accounts with a view to securing uniformity of treatment of fee remissions. The effect of these changes was to transfer to the headings Secondary Schools and Technical Schools certain expenditure previously included under Aid to Students. To this extent the figures under these heads for 1934-5 and later years are not comparable with those for earlier years. The changes also affect the receipts per pupil in Secondary Schools.

of her certificate after two years' training, and to have begun teaching at age 21

The salary of such a teacher without the 5 per cent superannuation deduction will be

	SCALE II		SCALE III		SCALE IV	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
In the first year, age 21	£168	£150	£180	£162	£192	£180
In the sixth year, age 26	216	186	228	198	240	216
In the eleventh year, age 31	276	231	288	243	300	261

If the teacher is not promoted to be a head teacher, the salary will reach its maximum for assistant teachers

For men after fifteen, seventeen and nineteen years under Scales II, III and IV respectively, the maximum salary in each case being £330, £366 and £408

For women after thirteen, fifteen and seventeen years respectively, the maximum salary in each case being £258, £288 and £324

The salaries of head teachers begin at sums ranging according to size of school from £18 to £120 (for a man) or £13 10s to £90 (for a woman) above the salary attained as assistant before promotion, and rise to maxima ranging under Scale III from £381 to £546 for a man and £303 to £438 for a woman. The maxima under Scales II and IV range for men from £345 to £492 under Scale II, and £423 to £606 under Scale IV, and for women from £273 to £396 under Scale II, and £339 to £486 under Scale IV

The age at which a teacher may be promoted to a headship varies from one area to another, and differs for men and women

Uncertificated teachers (i.e. teachers who are not college trained, but have some examination qualification recognised by the Board) have lower rates of salary. Under Scale II these rates range from £102 for men and £93 for women in the first year to a maximum of £198 for men after fourteen years, and £156 for women after twelve years. Under Scale III the corresponding figures are £108, £99, £222 (seventeen years), and £174 (fourteen years), and under Scale IV, £117, £108, £246 (nineteen years), and £198 (sixteen years). Uncertificated teachers are not now normally appointed to head-teacherships, but a number still retain such teacherships

Supplementary teachers, i.e. teachers without qualifications, appointed to serve in particular schools, have no settled scales of pay and no pension rights

Superannuation of Teachers

The gross cost of teachers' pensions met from the Parliamentary Vote of the Board of Education is estimated to amount to £7,887,850 in 1938-9. Of this sum £7,832,000 is required for pensions, etc., under the Teachers' (Superannuation) Acts 1918 to 1937. This service is centrally managed and is financed with the help of contributions at the rate of 10 per cent of the salaries of teachers, of which 5 per cent is payable by the teachers and 5 per cent by their employers

The Board pay grant on the contributions of local authorities as employers at the same rate as on teachers' salaries

The contributions are not invested, but are received by the Board and applied in aid of the Board's whole current expenditure of the year, so

reducing the net sum voted by Parliament, but a statutory account has to be kept, showing how the fund would stand if it had been invested at compound interest and charged with the benefits properly chargeable to it.

The benefits take the form of retiring allowances and lump sums based on the average salary received during the last five years of service.

The incidence of the cost of the benefits at present payable (£7,832,000) is estimated to be teachers, £2,860,000, employers £1,260,000 (after deducting grant from the Board), Board, £3,712,000.

The Teachers' (Superannuation) Act, 1925, requires an actuarial inquiry to be made every seven years for the purpose of determining whether, on the basis of the statutory account, the contributions payable are sufficient, or more or less than sufficient, to support the benefits payable in respect of the contributions. The Government Actuary's Report for the period ended March 31st, 1933, was issued in April 1935, and the Valuation Balance Sheet published with the report showed a deficiency as at March 31st, 1933, of £9,974,642. The report suggested that an increase in the rates of contributions from 5 to 6 per cent would be justified.

In April 1936, it was announced in the House of Commons that, having regard to the comparatively short period during which the contributory pension scheme had been in operation and to the exceptional conditions affecting the rate of teachers' retirements during part of that period, it was not proposed at present to take action to obtain a revision of the existing basis of contributions.

As these pensions are based on the average salary during the last five years of service, the reductions in teachers' salaries imposed during the period October 1st, 1931, to June 30th, 1935, affect the pensions of all teachers whose last five years of service include any part of that period. The Teachers' (Superannuation) Act, 1935, provides that after June 30th, 1935, any pension so affected shall not be less than 98 per cent of what it would have been if no economy reduction in salary had been imposed.

The Teachers' (Superannuation) Act, 1937, permits a teacher who is of good health and who is granted a pension on the grounds of age under the Teachers' (Superannuation) Act of 1918 or the Act of 1925, to surrender a part of his or her annual pension in return for the grant of certain benefits to or in respect of the wife or husband (as the case may be) or a dependant of the teacher. The amount to be surrendered may not exceed one-third of the pension and is subject to certain other limitations.

The surrender must be made at the time of retirement, the teacher having the choice of two schemes of benefit, viz.

Under Option A, the benefit is a pension payable after the death of the teacher to the wife or husband or a dependant of the teacher.

Under Option B (applicable only to a wife or husband) the benefit consists of two parts:

(i) An annuity payable to the teacher while the wife or husband of the teacher is alive, and ceasing on the death of the wife or husband, and

(ii) A pension of double the amount of this annuity payable to the widow or widower when the teacher is dead.

In the event of a beneficiary under either option dying before the teacher, the latter's pension is continued only at the amount to which it has been reduced by the surrender.

The tables of benefits receivable in return for the sums surrendered by teachers have been compiled by the Government Actuary. The benefits vary in amount according to the sex of the teacher and of the beneficiary and to their respective ages at the date of the teacher's retirement on pension.

[Contributed]

CHAPTER TWO

SURVEY OF EDUCATION EXPENDITURE IN SCOTLAND

(See also YEAR BOOK, 1938, pages 139-53)

THE YEAR BOOK for 1935 contained an account of the finance of education in Scotland. It is not necessary to reproduce this account in detail, but it is proposed to offer an outline of the existing financial arrangements, together with a brief survey of the more important tendencies in expenditure and income during the period from 1926 to 1938.

I EDUCATION (SCOTLAND) FUND NOTES ON TABLE 1

Roughly four-fifths of the expenditure on public education in Scotland is aided by grants from the Education (Scotland) Fund, which is administered by the Scottish Education Department. The greater part of the income of the Fund consists of grants voted by Parliament for education in Scotland, the amount of the annual grants being determined by the "eleven-eightieths" arrangement embodied in the Education (Scotland) Acts. Under this arrangement, Scotland receives a sum equivalent to the Scottish grants paid in the "standard" year (1913-14), plus eleven-eightieths of the amount by which the estimated education grants for England and Wales exceed the corresponding grants in the "standard" year. The advantage of this system is that Scotland receives a share of the national grants for education which can be applied in a manner suited to educational organisation in Scotland. In addition to the "eleven-eightieths" monies, a sum is also voted by Parliament annually in lieu of the education grants formerly paid into the Fund from the Local Taxation (Scotland) Account.

Approximately one-fourth of the resources of the Fund are required to meet services which do not fall under the direct administration of the local education authorities, e.g. training and superannuation of teachers, central institutions and voluntary schools. The remaining balance of the Fund (about three-fourths) is available for grants to education authorities and is distributed to the authorities under a scheme which takes account of the numbers of pupils and teachers in the schools and of the rateable value of each area. Except in minor instances (*viz.* the additional grants made after review of the financial circumstances of the necessitous Highland and Island areas, and the new grants referred to later in Section V (*e*) of this chapter), the calculation of grants is not related directly to expenditure. Thus, each authority is free, within the general requirements of the codes and regulations, to apply its share of the grants in the manner best suited to the needs of the area.

The receipts and expenditure of the Fund for the year ended March 31st, 1937, are shown in Table 1. The following notes refer to the main services aided from the Fund (other than education authorities, which are dealt with separately in the next section), but it should be noted that, as the accounting period for some schools and institutions does not coincide with the exchequer financial year, the amounts of grant may not agree with the amounts shown in Table 1.

(a) Central Institutions

Eleven such institutes (technical, art, etc.) are under the administration of the Scottish Education Department and provide advanced instruction for some 8,000 day and 11,000 evening students. The cost of maintaining these institutions (1936-7) was £313,100, of which 38 per cent. was met by grants from the Fund. In the same year grants amounting to £23,371 were made in aid of capital expenditure.

TABLE 1

RECEIPTS AND PAYMENTS FROM THE EDUCATION (SCOTLAND) FUND FOR THE YEAR ENDING
MARCH 31st, 1937

RECEIPTS		PAYMENTS	
	£		£
Balance from 1935-6	31,071	I Act of 1908, Section 16(1) (a) to (f)	
I Grants (Votes of Parliament)		(a) Expenses of Leaving Certificate Examinations, etc.	9,659
(a) General Aid Grant (including £586,842 voted in lieu of Payments formerly made from the Local Taxation (Scotland) Account)	7,231,340	(b) Universities	—
(b) Superannuation of Teachers	951,500	(c) Central Institutions (Grants)	155,721
		(d) Training of Teachers (Grants)	38,994
II Other receipts		(e) Teachers' Pensions, etc.	1,065,496
(a) Contributions towards Expenses of Teachers' Superannuation		(f) Other Educational Expenditure (Grants)	5,863
(i) From Teachers	438,931	II Act of 1918, Section 21(2) (a)	118,418
(ii) From Managers	438,399	(a) Voluntary Schools (Grants)	
(b) Interest on Scottish Teachers' Superannuation Fund (Act of 1908)	61,914	(b) Grants in aid of Employers' Superannuation Contributions (Schools not under Education Authorities)	11,483
		(c) Grants to Education Authorities	
		(i) Balance due for 1935-6 ¹	825,328
		(ii) Payment to account for 1936-7	6,094,500
		III Payment to Exchequer in respect of Superannuation Contributions from	6,919,928
		(i) Teachers	401,262
		(ii) Managers	401,079
		Balance on March 31st, 1937	25,852
Total Receipts	£9,153,755	Total Payments	£9,153,755

¹ The financial year of the authorities normally ends on May 1st in each year

In addition, three agricultural colleges and one veterinary college are scheduled as Central Institutions, but fall under the administration of the Department of Agriculture for Scotland. The maintenance expenditure on these colleges was £136,915, of which 54 per cent was met from grants (10 per cent from the Education (Scotland) Fund and 44 per cent from the parliamentary vote for agriculture in Scotland).

(b) Training of Teachers

The distinctive machinery by which training centres and colleges are brought within the control of a single National Committee (representative of all education authorities) is described on page 63 of the YEAR BOOK for 1934. Any deficit in the funds of the Committee is met by an annual levy on the education authorities, each authority contributing proportionately to the number of qualified teachers employed in its area. In the year ended July 31st, 1937, the expenditure of the Committee (including demonstration schools and capital expenditure) amounted to £201,757, of which approximately 33 per cent was met from grants and 40 per cent from the effective contributions of local authorities. At the commencement of the session 1937-8, the number of students in training for the Teachers' General, Special, or Technical Certificates was 1,862, of whom 136 were attending university classes and 983 were already graduates.

(c) Superannuation of Teachers

So far as the teachers are concerned, the arrangements for superannuation contributions and benefits are roughly parallel to those made in England and Wales, but there are considerable differences as regards central finance. The broad effect of the somewhat complicated financial provisions of the Education (Scotland) (Superannuation) Acts is that the Education (Scotland) Fund receives annually from the Exchequer a sum equal to eleven-eighths of net cost to the Exchequer of teachers' superannuation benefits in England and Wales. With this sum and the contributions of Scottish teachers and employers, the Fund assumes responsibility for all payments on account of benefits to Scottish teachers.

The financial position with regard to teachers' superannuation in Scotland for the year 1936-7 may be summarised as follows:

Expenditure on Benefits (including Refund of Contributions)	£	
		<u>1,065,496</u>
Met from	£	
Net Payment from Exchequer	368,024	
Teachers' Contributions	438,931	
Interest on Residue of the Fund under the Scheme of 1911	61,914	
Net Contributions of Education Authorities and other School Managers (i.e. from Rates or Local Sources)	196,627	<u>1,065,496</u>

(d) Schools under Voluntary Managers

The only schools directly aided from the Education (Scotland) Fund which remain under voluntary management are fifteen secondary schools, with 10,436 pupils, seven residential schools for blind, deaf or defective children, with 528 pupils, and three orphanages, with 412 pupils. Continuation classes are also conducted in four centres under voluntary management, while provision was made for the technical education of adult blind persons in the four Central Asylums for the blind. There is also a residential college for adult education.

In the year 1936-7, the total cost of maintaining these schools and classes was £367,000, of which 35 per cent was met from direct grants.

II EDUCATION AUTHORITIES NOTES ON TABLE 2

Each authority is responsible for all forms of primary and secondary education within its area, and there is therefore no clear-cut distinction for accounting or rating purposes between the cost of primary and secondary education respectively

(a) Rates and Taxes

The net expenditure from public funds of £13,190,000 was met from the following sources

Grants	£7,008,000 = 53 1 per cent
Rates and Derating Grants	6,182,000 = 46 9 "

The grants referred to above include direct grants from the Scottish Education Department (£6,938,000), grants from the Ministry of Labour for Junior Instruction Centres¹ (£68,000) and miscellaneous grants (£1,700)

(b) Grants to Education Authorities

The "block grant" principles adopted in the distribution of the free balance of the Education (Scotland) Fund to the authorities have been referred to in section I of this chapter. The grant regulations for 1938-9 are estimated to provide for the distribution of approximately £7,153,000, an increase of £70,000 on the grants for the previous year. Each authority will receive a sum calculated as follows

- (a) £4 18s 4d per pupil (average enrolment)
- (b) £119 5s per teacher
- (c) A fixed scheduled sum (share of £419,295)
- (d) Grants in respect of contributions made by the authority towards the maintenance of voluntary schools in the area
- (e) Grants in respect of the expenditure of the authority on play centres, school camps, etc., and other facilities for the physical training and recreation of children outside normal school hours and of adults

Less the produce of a rate of 5d in the £ on the rateable value of the area (the amount of this deduction being limited to 3s 9d per head of population)

The regulations aim at placing in the hands of each authority a share of the total grant available, which is determined on broad principles in relation to school population, teaching staff and rateable value. For grant purposes, no distinction is made between pupils or teachers in various types of schools, e.g. primary, secondary, etc. The educational organisation of each area is conceived as being sufficiently comprehensive to make it unnecessary to measure the claims for grant aid by narrow or restrictive standards.

(c) Teachers' Salaries

In 1936-7, the expenditure of £8,361,004 under this heading (exclusive of the authorities' contributions to teachers' superannuation) amounted to 62.4 per cent of the total expenditure of the authorities and was made up as follows

Day School Salaries	£8,082,182
Payments for Instruction in Continuation Classes	245,056
Retiring Allowances granted by Authorities	33,766

Teachers' salaries are paid in accordance with a scheme framed by the authority for each area. Every such scheme is approved by the Scottish Education Department and must provide for salaries not less than those

¹ Under the stimulus of the Unemployment Act, 1934, there has been a rapid growth in this expenditure in recent years (1932-3, £31,952, 1934-5, £59,333, 1935-6, £92,058, 1936-7, £98,199)

TABLE 2

INCOME AND EXPENDITURE OF SCOTTISH EDUCATION
AUTHORITIES FOR THE YEAR 1936-7*Income*

SOURCE	COUNTIES ONLY	COUNTIES ¹ OF CITIES ONLY	SCOTLAND	
			AMOUNT	PERCENT AGE OF TOTAL INCOME
	£ (000)	£ (000)	£ (000)	
Grants	4,636	2,372	7,008	52.3
School Fees	56	126	182	1.4
Endowments	15	2	17	0.1
Other Income	13	9	22	0.1
Balance to be met from Rates and Derating Grants	3,499	2,683	6,182	46.1
Total	8,210	5,192	13,411	100

Expenditure

ITEMS	COUNTIES ONLY	COUNTIES OF CITIES ONLY	SCOTLAND	
			AMOUNT	EXPRESSED AS SUM PER SCHOLAR ²
	£ (000)	£ (000)	£ (000)	shillings
Salaries of Teachers (in- cluding Authorities' Con- tributions towards Teachers' Superannuation, etc.)	5,613	3,222	8,765	247
Maintenance Expenses of Schools	1,276	873	2,149	61
Loan Charges (Interest Re- payment, etc.—including Capital Expenditure met directly from Revenue)	487	409	896	25
Administration	243	164	407	12
Bursaries and other Forms of Assistance to Pupils and Students	159	33	192	5
Other Expenditure	511	491	1,002	28
Total	8,210	5,192	13,411	378

¹ Burghs of Aberdeen, Dundee, Edinburgh and Glasgow² These costs are based on the total number of pupils in average attendance in day schools for the year 1936-7 (709,274 pupils)

prescribed by *Minimum National Scales* laid down by the Department after consultation with representatives of the authorities and the teaching profession. The main requirements of the Minimum National Scales are as follows

<i>Certificated Teachers trained for Two Years or Less</i>	
Men	£150-10-250
Women	£130-5-150-10-200
<i>Certificated Teachers (Graduates)</i>	
Men	£200-10-300-15-360
Women	£180-10-300
<i>Teachers¹ qualified under Chapter V of the Regulations for the Training of Teachers</i>	
Men	£230-10-310-15-400
Women	£200-10-350

In addition to the classifications shown above, the Minimum National Scales provide intermediate scales for certificated teachers with three or four years' training, as well as additional payments at prescribed rates for posts of special responsibility, e.g. head teachers, etc. It is open to authorities to provide salaries in excess of the compulsory minima, and in some areas a considerable number of teachers receive such payments. The temporary reductions in the Minimum National Scales which were imposed as a result of the national economies in 1931 were restored in full as from July 1st, 1935.

III SERVICES NOT AIDED FROM THE EDUCATION (SCOTLAND) FUND

Approximately one-fifth of the total expenditure on public education in Scotland is aided by grants which are not paid through the Education (Scotland) Fund. The main services under this head are referred to in the following notes

(a) Scottish Universities (see Table 3)

"Other Income" includes £38,179 of grants from local authorities (see footnote 2 to Table 4).

"Other Expenditure" includes £15,253 on examinations and £11,057 grants to student societies, etc.

During the period of five years from 1929-30 to 1934-5 the Scottish Universities have received benefactions amounting to £321,743 for capital expenditure on lands, buildings, etc., and nearly £600,000 for new endowments.

(b) Approved Schools (formerly described as Reformatory and Industrial Schools)

The grants for this service are provided by a separate parliamentary vote (Approved Schools, Scotland) and amount to approximately one-half of the cost of maintaining the schools. In the year 1936-7 the twenty-four approved schools, with 1,621 scholars, were maintained at a cost of £134,575, of which 46.2 per cent was met from grants and 41.6 per cent from the contributions of local authorities. In addition the authorities received grants amounting to £2,994 towards expenditure of £6,203 on the maintenance of 254 young persons committed to their care.

For some years after the war there was a considerable decline in the expenditure on approved schools due to a fall in the numbers of young persons committed to the schools and the consequent closure of a number

¹ These teachers are normally honours graduates and are mainly employed in secondary schools.

TABLE 3
SUMMARY OF UNIVERSITY INCOME AND EXPENDITURE FOR THE YEAR 1936-7 SCOTLAND
Income

INSTITUTION	TOTAL INCOME	FAVOUR - MERITS	PER CENTAGE	DONATIONS AND SUBSCRIPTIONS	PER CENTAGE	PARLIAMENTARY GRANTS	PER CENTAGE	TUTION IN GRADUATION, ETC. FEES	PER CENTAGE	OTHER INCOME	PER CENTAGE
Aberdeen University	£ 139,234	£ 25,966	18.5	£ 1,000	8	£ 62,730	45.6	£ 30,571	23.7	£ 10,547	8.4
Edinburgh University	297,752	57,106	19.2	7,290	2.4	111,469	37.4	98,573	33.1	20,211	7.8
Glasgow University	265,838	48,075	18.1	1,100	1	101,000	38.0	106,114	39.9	9,039	3.6
Glasgow Royal Tech College	87,867	13,758	15.5	4,958	5.6	43,601	49.8	15,104	20.7	8,050	9.8
St Andrews University including Dundee Univ College	134,950	29,912	22.9	1,553	1.2	59,500	47.6	26,803	21.5	7,181	5.5
Total	905,141	171,244	18.9	15,871	1.8	378,220	41.8	340,865	37.0	60,931	6.5

Expenditure

INSTITUTION	TOTAL EXPEN- DITURE	ADMINI- STRATION	PER- CENTAGE	DEPARTMENTAL MAINTENANCE			PER- CENTAGE	MAINTE- NANCE OF PREMISES	PER CENTAGE	OTHER EXPENDITURE		PER- CENTAGE
				SALARIES OF TEACHING STAFF AND SUPER- ANNUATION	OTHER EXPEN- DITURE	TOTAL				FELLOWSHIP, SCHOLAR- SHIPS, PRIZES ETC	TOTAL	
Aberdeen University	£ 137,188	£ 7,423	5.7	£ 76,959	£ 14,001	£ 90,960	66.7	£ 16,101	12.0	£ 250	21.434	1.8
Edinburgh University	297,756	19,014	6.4	153,826	43,916	228,743	77.3	30,402	10.5	17,838	5.998	6.1
Glasgow University	271,026	30,318	7.1	162,224	34,046	196,280	72.4	27,161	10.4	360	37,262	10.1
Glasgow Royal Tech College	82,869	6,997	8.4	48,686	10,140	58,811	70.0	13,267	15.8	362	4,911	5.9
St Andrews University, in- cluding Dundee Univ College	119,648	9,740	8.2	69,316	17,480	86,796	72.6	15,007	12.5	880	8,663	6.8
Total	904,627	62,967	6.9	431,021	122,078	553,099	72.9	102,468	11.4	1,871	80,006	8.8

of the schools. But under the stimulus of the Children and Young Persons (Scotland) Act, 1932, expenditure on this service now tends to expand mainly owing to the extension by one year of the age at which young offenders may be committed to the Senior Schools, and also to the arrangements made for the committal of children to the care of education authorities.

(c) **Central Administration and Inspection (Scottish Education Department)**

The expenses of the Department's staff in London and Edinburgh (£65,851¹), of Inspection (£66,011¹), and of the Royal Scottish Museum (£28,426¹) are borne directly on the vote for Public Education, Scotland. The Department is also responsible for the conduct of the Leaving Certificate Examination, but special additional expenses in connection with this service, amounting to £9,000 a year, are chargeable to the Education (Scotland) Fund.

IV COMBINED FIGURES SHOWING TOTAL EXPENDITURE ON PUBLIC EDUCATION IN SCOTLAND TABLE 4

This table shows the combined figures of annual expenditure on education in Scotland, which is aided from public funds (i.e. from grants or rates). The figures are based on ascertained expenditure for the year 1936-7 or for the nearest accounting period for which figures are available. The statement mainly covers expenditure for maintenance purposes, but it includes annual payments on account of loan charges (interest and repayment) in respect of capital expenditure and also capital expenditure met directly from current revenue. In the cases of some services, the figures do not agree with those shown in other tables, owing to the need for adjusting the combined figures in respect of cross entries in the accounts—especially in connection with the contributions of education authorities for teachers' superannuation and other services. In the case of education authorities, the figures are *net* after deducting cross entries in respect of income or expenditure included under other services.

V ITEMS OF SPECIAL INTEREST IN THE YEAR 1938

(a) **Preparations for the raising of the School-leaving Age in 1939**

During the year 1938, education authorities have been further considering the preparation of their schemes for the necessary adjustment of the provision of education in their areas consequent upon the raising of the school-leaving age in 1939, and there is evidence in the estimates for the year 1938-9 of the increasing activity in school building. To enable education authorities to meet the financial obligations placed upon them by the developments in view, the amount of the grants available is automatically expanding under the 11/80ths arrangement. For the year 1937-8 the grants showed an increase of £154,000, while a further increase of £70,000 is in prospect for the year 1938-9.

(b) **Grants to Scottish Universities from the Education (Scotland) Fund**

By Section 16 (1) (b) of the Education (Scotland) Act, 1908, the Secretary of State for Scotland was empowered, under certain conditions, to authorise payment of grants to the Scottish universities from the Education (Scotland) Fund. For nearly thirty years the universities have refrained from making any claim on the Education (Scotland) Fund, but in December 1936, the four universities made a joint request for consideration of their claims, in view of their increasing needs for financial assistance. In accordance with the requirements of the Statute, a special Committee was appointed under the Chairmanship of the Right Honourable Lord Alness, to consider the

¹ Estimates for the year 1938-9

TABLE 4

PUBLIC EDUCATION, SCOTLAND—INCOME AND EXPENDITURE (COMBINED FIGURES)

SERVICE	INCOME FOR THE YEAR 1936-7					EXPENDITURE		
	GRANTS		RATES ETC 1		OTHER SOURCES	TOTAL EXPENDITURE 1936-7	CORRESPONDING FIGURES 1935-6	
	AMOUNT	PERCENTAGE OF TOTAL	AMOUNT	PERCENTAGE OF TOTAL				
1 Universities ²	£ 335	40	£ (000) 30	4	£ (000) 461	£ (000) 826	£ (000) 797	
2 Scottish Education Department (Administration, Inspection and Royal Scottish Museum)	154	100	—	—	—	154	151	
3 Education Authorities (net) ³	6,733	53	5,792	45	208	12,733	12,402	
4 Central Institutions	136	44	21	7	153	49	310	291
5 Agricultural, etc., Colleges	73	54	15	11	48	35	136	130
6 Training of Teachers	64	35	82	42	51	26	197	191
7 Superannuation of Teachers (Statutory Schemes only)	368	35	186	17	511 ⁴	48	1,065	1,016
8 Voluntary Schools, etc.	152	41	31	8	188	51	371	385
9 Approved Schools, etc. ⁵	60	43	59	42	21	15	140	132
Totals (1936-7)	8,075	51	6,216	39	1,641	10	15,932	—
Corresponding figures for 1935-6	7,799	50	6,039	39	1,657	11	—	15,495

¹ The figures shown represent the amounts falling to be met from rates and from grants under Part III of the Local Government (Scotland) Act, 1929 (dealing grants)

² Excluding the expenditure of the Royal Technical College, Glasgow, which is included under Central Institutions The sum of £30,000 under the heading of Rates, etc., represents grants in lieu of payments from the Local Taxation (Scotland) Account which would otherwise have been available for relief of local rates

³ Figures are net after deduction of expenditure accounted for under other heads The principal adjustments are
(a) £47,000 has been transferred from education authorities' grants to grants in lines 6 and 8 on account of grants paid to authorities in respect of their contributions to voluntary schools

(b) £344,000 has been transferred from rates (line 3) to rates in lines 4 to 9, on account of the contributions of education authorities towards which they receive no direct grants This sum includes the net contributions of authorities to the expenses of teachers' superannuation

⁴ This figure includes the contributions of teachers and the net contributions of employers (other than education authorities) to the expenses of teachers' superannuation

⁵ Formerly known as Reformatory and Industrial Schools

application of the universities and report to the Secretary of State. The Committee reported in April 1938, and recommended annual payments amounting to £43,000. In accordance with the recommendation of the Committee, payments of £12,000 and £4,000 were made before July 31st, 1938, to the universities of Glasgow and Edinburgh respectively. The full payments recommended for the year 1938-9 (£21,000 Glasgow, £13,000 Edinburgh, £5,000 St Andrews, £4,000 Aberdeen) have not yet been authorised by the Secretary of State.

(c) Development of Technical Education

As a result of the review of the requirements of technical colleges, etc., which followed the announcement in 1935 of the Government's policy for the development of technical education, important proposals have now been made for the extension and improvement of the technical colleges, schools of art and other central institutions. It is estimated that capital expenditure amounting to upwards of £500,000 is involved, and a number of the schemes are already in progress. A special grant of £6,000 from the Education (Scotland) Fund has been authorised for the development of Paisley Technical College, a grant-aided technical school under voluntary management.

(d) Educational Endowments

The Commission appointed in 1928 demitted office at the end of the year 1936. Upwards of 1,500 endowments were recorded as falling within the purview of the Commission. The Scottish Education Department are empowered to continue the work of the Commissioners, and during the years 1937 and 1938 considerable progress has been made with the outstanding schemes. The receipts and expenditure of Educational Endowments falling under the review of the Department's Accountant in 1936-7 may be summarised as follows:

Funds administered	Receipts £	Expenditure £
(a) By Education Authorities	30,367	15,443
(b) By Governing Bodies other than Education Authorities	619,677	556,062
Totals	£650,044	£571,505

Of the total expenditure of £571,505, costs of administration accounted for £33,093, maintenance of homes, schools and other residential institutions £264,451, maintenance of Central Institutions £126,359, bursaries £40,056, transfers to capital £27,915, and other expenses £79,631.

(e) New Grant in aid of the expenditure of Education Authorities on Special Services mainly related to Physical Training and Recreation

By legislation in 1936 and 1937 the powers of education authorities were extended to authorise expenditure on the provision of facilities for the recreation and social and physical training of two classes of persons, viz (a) children during holidays and at other times when they are not in ordinary attendance at school, and (b) persons who have passed beyond the influence of normal school activities. In order to encourage these developments and to give the Scottish education authorities a measure of direct grant-aid similar to that allowed to local education authorities in England and Wales, the Grant Regulations for 1938-9 have been adjusted to provide a grant of 50 per cent of net expenditure on these services. While the grant involved is of relatively small amount (estimated in the first year at £16,000 out of a total sum of over £7,000,000 distributed to the authorities), this modifica-

tion of the Regulations is noteworthy in so far as it represents a slight departure from the block grant principles which have governed the allocation of grants to education authorities in Scotland since 1920. The Department have emphasised, however, that it is not proposed to interfere with the present block grant system under which the free balance of the Education (Scotland) Fund is distributed to education authorities in aid of their expenditure on well-established school services.

VI SURVEY OF EXPENDITURE DURING THE LAST TWELVE YEARS

(a) Growth of Expenditure and Incidence of Contributions from Grants and Rates (Table 5 on page 250)

An accurate aggregation of educational expenditure presents considerable difficulties owing to the different accounting periods for the several services and to the cross entries which occur in the accounts. The figures in Table 5 show for each year from 1926 to 1937 the total expenditure on State-aided school services (education authorities, voluntary schools, training and superannuation of teachers, etc.) which are aided by (i) grants from the Education (Scotland) Fund and (ii) rates and derating grants. Expenditure in Universities, Agricultural Colleges and the Royal Scottish Museums is not included in this table.

In the year 1924-5 the expenditure had taken an upward turn following the recovery from the period of the "Geddes" economies. In the succeeding years the figures showed a steady development until the year 1931-2, which witnessed a severe period of retrenchment. The maximum effect of the resulting economies was reached in 1933-4. Since that time, expenditure has steadily increased following the restoration of salary cuts in 1934 and 1935. A further increase may be anticipated in the year 1938-9.

During the period under review, the total expenditure has risen from £12,820,000 (1926-7) to £15,245,000 (Estimates 1937-8), i.e. an increase of £2,425,000, which has been met as follows:

<i>Increases</i>	£ (000)
Education Grants, etc.	1,215
Rates and Derating Grants	1,138
Fees	8
Teachers' Superannuation Contributions	60
Other Local Income	4
Total (increase)	<u>£2,425</u>

Transfer of Burden from Taxes to Rates

The "Geddes" economies prior to 1923-4 had resulted in a definite transfer of burden from taxes to rates. The economies of 1931 led to a similar transfer—especially marked if measured against the pre-economy estimates of the year 1931-2. But if measured against the actual expenditure of 1930-1, no such transfer is apparent. Of the increase of £1,225,000 in expenditure since 1930-1, no less than £723,000 has been met by additional grant. The grant available to Scottish education authorities has been adversely affected by the abolition in 1931 of the "deficiency" grant to local education authorities in England and Wales. It is estimated that the Scottish grants were reduced by approximately £200,000 on this account. It should be noted, however, that since 1929, the State has provided a large contribution to all rate-borne expenditure by means of the derating grants under the Acts of 1929.

(b) Growth of Expenditure of Education Authorities (Table 6 on page 252)

Apart from the expenses of teachers' superannuation, the greater part of the expenditure under review is reflected in the accounts of the revenue

TABLE 5
TOTAL EXPENDITURE ON EDUCATION IN SCOTLAND AIDED FROM THE EDUCATION
(SCOTLAND) FUND¹

YEAR	TOTAL EXPENDITURE	EDUCATION GRANTS				DEFICIT FALLING TO BE MET FROM RATES AND DEBATING GRANTS	FEES	OTHER LOCAL INCOME (ENDOWMENTS ETC.)	TEACHERS' CONTRIBUTION TO SUPER- ANNUATION
		TO LOCAL EDUCATION AUTHORITIES AND VOLUNTARY SCHOOLS ETC. 2		CENTRAL ADMINIS- TRATION AND INSPECTION (SCOTTISH EDUCATION DEPART- MENT)	£ (000)				
		AMOUNT	PERCENTAGE OF TOTAL EXPENDITURE						
1918-4	£ (000) 5,176	£ (000) 2,609	50.4	71	£ (000) 2,022	£ (000) 194	£ (000) 177	£ (000) 108	
1920-7	12,820	6,481	50.5	118	5,199	427	211	384	
1927-8	12,890	6,477	50.3	117	5,269	438	196	393	
1928-9	13,158	6,530	49.6	117	5,482	430	195	404	
1929-30	13,623	6,605	48.5	120	5,854	431	199	414	
1930-1	14,020	6,965	49.7	121	5,843	437	231	423	
1931-2	13,713	7,299	53.2	118	5,241	435	210	410	
1932-3	13,316	6,827	51.3	114	5,342	453	181	399	
1933-4	13,272	6,609	49.8	113	5,528	463	166	393	
1934-5	13,850	6,833	49.3	114	5,812	451	231	409	
1935-6	14,434	7,226	50.1	118	6,004	486	169	431	
1936-7	14,870	7,473	50.3	120	6,182	447	209	439	
Estimates 1937-8	15,245	7,688	50.4	126	6,337	435	215	444	

¹ Expenses of central administration and inspection (Scottish Education Department) are also included

² Includes grants towards Training and Superannuation of Teachers, Central Institutions and expenses of the Leaving Certificate Examination

expenditure of the education authorities. Accordingly, the expenditure shown in these accounts for recent years has been analysed in Table 6 in order that the tendencies to fluctuation may be examined under the main subheads of expenditure.

During the period from 1925-6 to 1936-7 the expenditure of the authorities increased by £2,152,000, or 19 per cent (see Table 6). This increase is accounted for as shown in Table 6 on page 252.

Notes on Main Increases

Teachers' Salaries—While there has been some increase in average salaries of teachers during this period, the increase in expenditure is largely accounted for by the increase in the number of teachers employed, i.e. from 26,250 teachers in 1925-6 to 28,805 teachers in 1936-7.

Employers' Contributions to Teachers' Superannuation—This increase is abnormal, as the employers contributed only 2 per cent of salaries in 1925-6, whereas since 1926 they have contributed at the rate of 5 per cent.

Meals and Clothing for Necessitous Children—The large increase under this head is due to the heavy obligations imposed on education authorities mainly on account of unemployment.

<i>Increases</i>	£ (000)	£ (000)
Administration	32	
Teachers' Salaries, etc.	942	
Employers' Contributions to Superannuation	221	
School Maintenance	376	
Loan Charges, etc.	222	
Contributions to Voluntary Schools, etc.	57	
School Medical Services	55	
Meals and Clothing for Necessitous Children	109	
Approved Schools	25	
Miscellaneous	182	
		2,221
<i>Off-set by Decreases</i>		
Bursary Assistance, etc.		69
Net increase		<u>£2,152</u>

Miscellaneous Expenditure—The large increase under this head is mainly due to the inclusion of special services which have expanded rapidly in recent years, e.g. expenditure on conveyance and maintenance of defective children has risen from £73,000 in 1925-6 to £131,000 in 1936-7, on county libraries from £21,000 to £72,000, while the new service of junior instruction centres cost £98,000 in 1936-7.

(c) Capital Expenditure of Education Authorities (Table 7 on page 253)

Capital expenditure on the improvement of existing premises or the building of new schools is an important index to progress in educational provision. Accordingly, the figures of actual expenditure and annual charges to revenue account are set out for a period of years in Table 7.

It will be observed that the actual capital expenditure has, in common with other educational expenditure, been affected by the two periods of financial stringency since the war. Bearing in mind the excessive cost of building during the early post-war years, the figures in Table 7 clearly show that, in spite of the need for overtaking the arrears of building replacement due to the cessation of building during the war years, the actual amount of building remained considerably below the pre-war standard for many years. Indeed, it was not until 1929—and then under the stimulus of

TABLE 6
EXPENDITURE (REVENUE ACCOUNT) OF SCOTTISH EDUCATION AUTHORITIES

MAIN SUBHEADS OF EXPENDITURE	1913-4:1	1922-5	1927-8	1929-30	1931-2	1932-4	1935-6	1936-7	PERCENTAGE OF INCREASE BETWEEN	
									ESTIMATES 1937-8	1932-4 AND 1936-7
	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	%	%
Administration	168	375	403	395	404	379	401	409	142	8
Teachers' Salaries, etc	2,694	7,419	7,643	8,032	7,747	7,516	8,222	8,361	210	13
Teachers' Superannuation	49	183	369	388	371	360	400	409	(Not comparable)	
Other Expenses of School Maintenance ²	701	1,773	1,821	1,973	1,874	1,814	2,027	2,149	207	21
Loan Charges and Capital Expenditure met from Revenue	557	675	717	760	951	935	857	952	61	33
Assistance to Pupils and Students (Bursaries, etc.)	66	261	255	251	242	185	188	192	191	(Decrease 26)
Contributions to Voluntary Schools, Training of Teachers, Central Institutions, etc	—	135	166	158	166	154	174	192	(Not comparable)	42
Medical Examination and Treatment	50	139	153	168	177	171	186	194	288	40
Meals and Clothing	7	54	66	86	141	132	170	163	2,238	202
Approved Schools ³	34	49	59	46	42	37	66	74	80	51
Miscellaneous	72	183	194	233	252	249	339	365	407	99
Totals	4,398	11,246	11,846	12,480	12,367	11,932	13,030	13,398	205	19

¹ The expenditure shown for 1913-14 includes expenditure of School Boards, Secondary Education Committees and Managers of the Voluntary Schools conducted under the Code

² This subhead covers fuel, light, cleaning, repairs, rent, taxes, insurance, books, apparatus, etc

³ Formerly known as Reformatory and Industrial Schools

TABLE 7
CAPITAL EXPENDITURE (EDUCATION
AUTHORITIES)

YEAR ENDED MAY 15TH	EXPENDITURE FOR CAPITAL PURPOSES			ANNUAL CHARGE ON CURRENT REVENUE IN RESPECT OF CAPITAL TUL FOR CAPITAL PURPOSES				TOTAL OUT- STANDING LOAN LIABILITIES AT END OF EACH YEAR
	PURCHASE OF SITLS, RELATION DI BUILDINGS, ETC	FOR BUI D INGS OF VOLUN TARY SCHOOLS TRANS- FERRED	TOTAL EXPENDI- TURE	IN TEREST ON LOANS	REPAY- MENT OF LOANS ¹	NET DER- ECT & PRDN REVENUE	TOTAL ANNUAL CHARGE	
	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)	£ (000)
1914	472	—	472	233	324	—	557	6,776
1923	311	44	355	238	330	75	643	5,481
1924	327	4	331	236	327	58	615	5,285
1925	427	—	427	222	329	76	627	5,254
1926	621	—	621	227	329	119	675	5,614
1927	578	—	578	242	342	105	689	5,692
1928	654	—	654	260	351	106	717	6,157
1929	730	126	856	278	368	92	738	6,343
1930	1,071	15	1,086	294	379	87	760	6,632
1931	1,387	350	1,737	363	387	79	829	7,810
1932	1,271	—	1,271	380	438	132	950	8,731
1933	864	—	864	389	447	124	960	8,933
1934	704	—	704	361	444	130	935	9,176
1935	767	—	767	344	457	109	910	9,293
1936	888	—	888	323	463	71	857	9,506
1937	1,119	—	1,119	330	492	75	897	10,085

¹ Includes payment to sinking funds

proposals for raising the school-leaving age and the organisation of post-primary education—that the output of capital work could be said to have reached the normal pre-war standard. Since 1929 the output has exceeded the pre-war standard and, in spite of the slight set-back due to the financial stringency in the years 1932-4, a steady increase may be expected in view of the prospective raising of the school-leaving age. As a result of building activity in recent years the total amount of outstanding loan liabilities in 1930-1 for the first time exceeded the pre-war figures. It may be remarked, however, that, while the liabilities in 1913-14 amounted to roughly one and a half times the total annual revenue of the authorities, the liabilities stand to-day in the much more satisfactory ratio of three-quarters of the total annual revenue.

[Contributed]

PART FOUR

SECTION ONE Philosophies of Education

CHAPTER ONE

EDUCATION AND THE SURVIVAL OF DEMOCRACY

THE standard of well-being and security reached by any society depends mainly upon four factors (1) the *average* individual technical and cultural skill, (2) the right choice of collective aims (political policy), (3) the efficiency of the collective machinery for attaining them (political government), (4) the dynamic or impetus to reach them. The part that education may play in furthering these aims divides also into four (1) the technical and cultural equipment and skill for getting a living and using leisure, (2) the factual equipment for sharing in the direction of policy, (3) the aptitudes for judging aims and issues, (4) the class of individual motives in action in social life. With the first of these, in each case, covering the ordinary controversies on educational policy and curricula, this article is not concerned.

The idea of Democracy, developing but slowly for many years, is undergoing pressure of quite novel kinds under our very eyes, and it would be over-bold to say what the resultant shape of its institutions may be. *First*, we have seen them breaking down in practice in various countries, such as Portugal and Greece, where democratic parliamentary government has not been successful and has been wilfully and cheerfully superseded by authoritarian rule, in Italy, Germany and Russia there have been particular reasons, in which the necessity for recovery from the devastating effects of war have been prominent. Democracies have not been conspicuously successful save in English- and Scandinavian-speaking countries. *Second*, authoritarian planned economics have some notable achievements to their credit, which owe their success to the completeness and finality of the authority, and which have advanced the well-being of their people in ways which would apparently not have come about had they remained democratic, or which contemporaneous developments have not equalled in democratic countries. *Third*, for rapidity of action and decision in international affairs, democracies seem to be at a disadvantage, and it is being seriously asked whether, especially in the event of contest or conflict, democracies can move quickly enough to hold their own. Thus democracy is challenged by its practical failures, by its comparative internal economic achievements, by its comparative efficiency in mobilising force. From this challenge we are directly driven to ask whether it is really suited to all racial temperaments, whether some of its defects have

really been seriously tackled, whether its undoubted boons to the individual have not been purchased at too high a price, and whether it can compete and survive in a world which is not universally democratic.

We are thus compelled to revise the idea itself and its practical forms, to visualise and postulate a new democratic ideal, with emphasis on new qualities. Until this has been done, we cannot tell what kind of an educational system will best serve it, and what qualities are most in need of cultivation.

If the authoritarian method, through blind and forced obedience, leads to great military efficiency and is also associated with territorial ambition and aggression, the democratic order is forced, for self-preservation, to take upon itself unwanted disciplines, some of them repugnant to liberty in the individual. It is one thing to circumscribe individual fancy for the greater good of the whole of society, the individual gaining far more in this general dividend of well-being than he gives up in this personal sacrifice. This is a democratic goal, but difficult to reach in practice. For in the aggregate, simple *laissez-faire* action for the individual is licence and not liberty, and when it makes chaos for society it is the negation of its own existence. This kind of optimum balance between free action and social control is an equilibrium which can be decided between the internal forces of a country or race, without reference to the practice of other peoples. But it is quite another thing to strike this balance, not because of its optimum social product, but in order to withstand the aggression, or to obviate the fear, of an outside force. This is a qualification of freedom of action which is resented as unnecessary, and yet may be wantonly imposed on us by the perils of meeting rival philosophies, baser in ethical and utilitarian content, but more efficient in a competitive or military contest to extend their influence.

But, however distasteful, we are forced to face the necessity, and education may have a new part to play in maintaining the integrity of democracy now that democracy is subject to powerful competition and even to a challenge to its existence. (I do not touch here the development of high technical efficiency, craftsmanship and economic competence, which authoritarian countries have been developing so rapidly. Our relation to this problem has been so well dealt with by recent inquiries, that I could add but little.) Before we can determine what the new essentials of education may be, we must examine the two contrasted aims a little more closely.

The Nazi Philosophy

The authoritarian philosophy has been expounded to me by prominent Nazis on these lines:

Democracy, as we British visualise it, with freedom for the masses to think and to take part in government by equal and secret voting, is a delusion—a contradiction in terms. Its feasibility is confuted

by all history. Whenever it has arisen, it has borne the seeds of its won decay. It is, historically, by induction, a freak. The masses have no competent knowledge, they are subjects of mass hysteria, they take the short view, they have no judgment, and even if they *were* wise, and yet covered the whole spectrum of opinion, they would get in each other's way—as witness the multitude of political parties which make French constitutional government so futile and unstable, which brought German government to an impotent standstill and which have reduced Greece to ineptitude. It is true that Britain has had democratic government for over 250 years, but, all the same, it is artificial. This freakish length of time has given the illusion of permanence, but it is bound to collapse, or lead to a standard of performance far below a competent central direction. The masses have no capacity except to follow a leader. It may be psychologically good for them to *appear* to elect him, but his election can be made inevitable if no rivals are allowed, and if only the "right" kind of information goes into the heads of the citizens. It is essential that the leader be always *right*, and justified, and seen to be infallible. This means that the Press must be an engine of government, controlled to produce this result. The forms of law are also a branch of politics—free to act upon purely legal lines in matters unaffected the prestige of leadership or government, but bound to support the authority when that is in question. If the leader has to change his policy under compulsion of facts, all these forces must be used to preserve prestige, to save face, to impose reasons good or bad upon the child-like minds. The leader must be always right. It is better that a few conscientious, less nimble souls should perish if they do not assist this change. This involves risks of summary conviction on any member who happens to get jammed in an awkward position. But this risk of an unjust fate is only a statistical risk, like typhoid or smallpox. Just as flying has brought great advantages at the expense of new risks of death, so the Nazi regime is a new invention of government and has brought new costs or risks far outweighed by its advantages. The people like the illusion of freedom, but they like still better to be led in masses to great ideals or proud accomplishment. An aristocracy of intellect and will-power is essential, and this justifies the Nazi party in leadership, and institutes a rigorous, high standard for all new entrants or acceptances. For if this party takes arbitrary power for the security of the State it must be wise, and the best party for the State, so that all who speak or think against it are *ipso facto* inferior, and can justifiably be removed. So long as subversive or rival elements exist, secret police and concentration camps are necessary. "I do not mind freedom of thought in the least, provided I can control what facts go into the mind—a logical mind must then draw the 'right' conclusions, the conclusions I want, and its workings need not be feared." Culture and taste ought to be regulated and imposed; only the Nazi mind can be allowed to be progressive. (Here I interject that the ultimate dilemma of education in the

authoritarian State is that it cannot both produce leaders and crush individuality in ideas)

I have reason to believe that many intellectual Germans who support the party, do so as a present choice of evils, *as well as* from fear of the consequences of opposition. But they deplore the necessity for this form of government to displace *spiritual* authority also, and yet an independent spiritual authority in the individual is the mortal foe of a single-minded State ideal. But it is also arguable that many Germans and Russians believe in the all-round superiority of their philosophy in which the defects we think are vital, if acknowledged as defects, appear to them as only a price to be paid.

Professor Williams has recently emphasised the relativity of moral ideas to the State. "In German eyes there is no absolute morality

the Anglo-Saxon brand connotes for the German a strong dose of hypocrisy. We may be happy that Anglo-Saxon common sense (a quality which the Germans despise and detest) still declines to relativise its motives of right and wrong in terms of nationality, but we should do well to remember that the German does this with deep conviction. The *absolutely* binding idea for the Germans of to-day is the national State. The State is the fate of all Germans, and the State pursues its remorseless way with ruthless disregard of the claims of any individuality except its own."¹ He says that while it is strange that there should be inspiration in such a conception, yet it is at the root of that spirit of devotion and self-sacrifice which we all admire in the behaviour of the modern German citizen. As a recent observer of the Nazi spirit at its highest, as exemplified in the Nuremberg Festival, I have been struck with two things above all others: first, the extraordinary efficiency and skill with which all the resources of science in acoustic effects, lighting, flagging, all the beauty of words, poetry, song, music, all devices of psychological appeal and culture, have been concentrated upon the issue in hand, the creation of a spirit of blind devotion and responsive sacrifice, and second, the undoubted power of this appeal on the younger generation, amounting to a religious emotion. Most of it turns around the greatness of the State, not indeed in aggressive military might, but certainly in defence from all sorts of suggested dangers of attack and encirclement. For a people who suffered defeat and a long, bitter abasement, and who have risen suddenly to great power, this attitude is not surprising.

I do not doubt the passionate devotion of the French to the defence of their country, still less do I doubt the ultimate stand of Britain. But all these are *defensive* patriotisms which hurt none of us. No one knows what strain the new German spirit would stand in a demand for *aggressive* warfare (from a peace-loving people). But war will never be so described. It can the more easily in a totalitarian State be given all the appearances and reasons

¹ *The Times*, December 28th, 1938

of resistance to injury, and in subjection to that psychological control, the same spirit which stands for real defence can be used for actual aggression, disguised as such resistance. We are entitled to ask ourselves searchingly whether the patriotism of our *millions* will have a spontaneous quality of response before direct danger awakens it, that can more mechanically be induced and more rapidly be mobilised in authoritarian countries. And in any case, can we *educate* for this quality of devotion? If not, however important, it is outside the purview of this survey.

The "Survival Differentials" of Democracy

We have, then, to ask, what, if any, are the survival differentials of democracy? Can we educate for them? Do the present advanced aims of educationists meet what is required? Let us look at the last question first.

Most of the many modern discussions of education for democracy or for citizenship proceed upon the basis of improving the mental resources to deal with public questions—with what has been called the "knowledge-content"¹ of a man's education. It therefore looks at the nature of the question to be settled, and lays emphasis upon economic geography, upon modern history, upon forms of local and central government, upon economic principles, upon psychology, upon the rudiments of science as an essential background or equipment. With these substitutes for less pertinent or relevant sections of the curriculum, the voter is nudged into a much more aware intelligence for the problems in which he is to be a fraction of the national arbiter. It is to be his basic culture. And we can pass lightly over the question whether these subjects are as good in "mental discipline" or mind training as the Latin which may be displaced, if by that we mean the cultivation of mind processes of retention, selection, arrangement, expression, qualitative judgment *in the field of knowledge*. Let us assume that the old and the new curricula are equal in this respect, and also that the new is not inferior as a basis for technical studies and getting a living, assume, again, that the new is not inferior as a basis for the resources and aptitudes of leisure.

We still have to ask whether this "knowledge-content" is all that is needed from education for a democracy in the wider sense of survival we are now considering. Mr. Happold, a distinguished headmaster, has declared recently² that education for participating citizenship is the most pressing task, and it is not enough merely to give a body of knowledge on political affairs not yet generally provided, and add subjects, or even the mental training which will enable boys and girls to act rightly in the political sphere—education must make them healthy, well adjusted, self-controlled personalities, capable of fitting harmoniously into the work of the community and leading full and happy individual lives—a truly Platonic ideal. Dr.

¹ F. C. Happold, *Citizens in the Making*, page 49.

² *Op. cit.*

Norwood has described the ideal of the English tradition as the training of a gentleman and the formation of character as a first task, to which end religious training, a perfect system of self-government and team spirit in athletics all contribute. Dr L. P. Jacks has confirmed the ideal of our system. Others, however, deplore the pattern-moulding of this system and destruction of individual initiative. Gradually we are becoming dissatisfied with an improvised "knowledge-content" of education as a preparation for citizenship. Mr Happold wants to evolve defensive mechanisms against the modern foes of contentment and poise—rush and standardisation. Comparatively few boys are able to appreciate beauty—in literature, architecture, music or nature—few can resist insidious temptation to rush about. They are the prey of cheap sensationalism, of ready-made opinions, of mass suggestion, and thus easy game for newspapers and pictures and purveyors of vulgarity, for while the old classical scholarship was an antidote, Jacks and others insist on the education of the whole man, and that we have overdone the book-learning, exam-passing aspects. It is not for the school to inculcate doctrine, or teach a boy what he ought to think—it should train him how to set about finding a solution, to be precise in definition, to be on his guard against sentimentalism, mass suggestion and loose thinking.

It is very easy to exaggerate the actual value of "knowledge-content" in practice. It is bound at the best to be very general and sketchy, and quite inadequate *in itself* to deal with any particular concrete political problem that turns up. It may then be a positive danger. It is only valuable if it gives *awareness* of issues to be faced and studied, and induces a readiness to specialise in them as the emergency requires. If citizen "A" with the best "knowledge-content" from his school life, tries to come to a *judgment* on a conflict in Manchuria, or an industrial dispute, equipped only with his scraps of geography, history and government, I would far rather have citizen "B," trained in classics and mathematics, with keen appetite to read every authoritative article around the subject when it came up, and having no prepossessions. When it comes to a practical vote, mental aptitudes of judgment are worth double the "knowledge-content" of the best school education. Correct intellectual habits count for far more than correct mental stock. Relevant "knowledge-content," therefore, is more valuable than irrelevant for democracy, but it is not nearly enough.

Now, despite all that has recently been said, educationists have not consciously contrasted their aims with the essentials which the survival differentials of our type of democracy, side by side with authoritarian controls, really demand. That being so here, still less should we expect the deliberate effort to be made yet in the United States, so much less self-conscious on the subject.

New Emphasis on Skill in Living

The most recent influential systematic examination of the problem, the Regents' inquiry *Education for American Life—a New*

*Programme for the State of New York*¹ has an opening section on "Growing Schools for a Growing World" in which the basic questions are repeated. They do not accept as democratic ideals education for contentment or for resentment, making merely dolts or rebels. In the programme for the new citizen stress is again laid upon the "knowledge content" necessary for "yes" and "no" on Government activities in economics (tariffs, subsidies, rates, regulation, taxation, banking regulation, as of old, regulation of hours, price fixing and management problems generally). The American has decided to *ride* the economic cycle, not to let it flatten him out. This is a dangerous situation if the voter is illiterate in economics, incapable of appraising results except in short superficial terms, easily fooled as to his own interests and the national welfare by demagogues or selfish manipulators, unable to exercise economic self-control, insistent upon things that cannot be accomplished, and bungling in his political action. Every mistaken policy will lessen the standard of living for future generations. Again, with foreign affairs gaining in importance, he wants to have his say and his vote. This again can be dangerous if the voter is illiterate in international affairs, easily swayed by demagogues, armament cliques or other selfish interests, ignorant of the central needs and objectives of other nations, and insensitive to the responsibilities and amenities of international life. The Report concludes that the eradication of illiteracy in economics and international relations will be a long, difficult job. Apart from absence of knowledge, the prejudices are hard to shift—too many are inclined to think that every problem should be solved by Government action. "Let George do it." The attitude "anything you can get away with" is a satisfactory standard of civic behaviour. But this mentality did not make the American Constitution. It is not surprising that the influence of rival forms of society on the programme is not apparent. It is recognised that as society has evolved, the emphasis of qualities has shifted—first, ability to fight and to stand hardship, then to compromise, then to succeed in competitive individualism, these pass in succession. Now there is a new emphasis on "*skill in living and working together*". In this respect we are far behind the successful democracies of Europe. It is noticed that whole nations to-day are more and more compelling the assent of the governed by manipulating mass emotions, through propaganda, but the point is not taken much farther, and not far enough for our purpose.

In fact, the educationists interested in political philosophy have not reached our main question. Have the statesmen interested in education reached it either? General Smuts, in a great Installation address on "The University in Civic Training," is a good authority to turn to. He denies the main premiss of the German system and is content, therefore, to take it no farther. "Racial, religious and political persecution are again appearing in many European coun-

¹ Published by McGraw Hill Book Co., Inc., New York, December 1938

tries. Intolerance is once more looked upon, not as a return to barbarism, but as a sign of strength and patriotism and national discipline. The gentler virtues and the human standpoint inculcated by the Founder of the Christian religion are derided as signs of weakness, of an inferiority complex, and of national decay. Whatever may be the ultimate outcome of the rival Fascist and Communist systems now contending for mastery in Europe, I would ask you to believe that their hostility to the principles of racial, religious and political toleration must surely be a passing phase, a symptom of the confusion and unrest of the times. The human spirit, having once broken its primeval shackles and emerged from its bondage, will never again submit to them for good." Again, "Tolerance is indeed the very essence of our civilisation. The university, in its aloofness from the wail-cries and passions of the market-place, is a good place in which to nourish this spirit of tolerance, this racial indifference, this recognition of the fundamental claims of our better nature. For us, too, politics is but an enlargement of ethics. You will learn that you can only be a good citizen and a patriotic South African in the measure that you show reverence for the spirit of tolerance and humanity which is the high light of our civilisation." If the rival ideology is accomplishing anything final that our own is failing to produce—if it is in any case endangering the existence of our own—it may not be enough to assert the higher quality of our own, and its ultimate supremacy if left alone. We may have to learn new things, emerging from what is not the best ideology as a whole, we may have to realise that a fine ideology badly absorbed may be beaten in the race by a lower one faithfully and fully absorbing the spirit of a people. We may have even to learn that "defence is better than offence." So classification of ideologies is not enough. We cannot pick the boys for their Rugby colours by the result of the School Certificate examination. We may be forced to a contest in a sphere of values we think lower and unworthy.

Deriving the Best from Democracy

If free democracy is to yield results economically as useful as the best demo-autocracy, it must make the best of its own distinctive qualities. A democracy can lead itself as hopelessly astray as any dictator can lead his people. It must, therefore, get wisdom somehow into its leading places by its own free choice, as well as have wisdom in its individual decisions. It must have access to all the relative facts—real freedom of the Press, it must have the inclination to use that access, it must have power of fair judgment upon those facts, it must have power to express its views and persuade the less endowed of right courses, it must have effective capacity to see how best to carry out an ideal solution, and be prepared to hasten slowly, to choose between two evils, and,

(Continued on page 803)

CHAPTER TWO

THE CONDITIONS AND CONTENT OF THE NEW ORDER OF GERMAN EDUCATION

(See also YEAR BOOK OF EDUCATION, 1932, pages 839-57, 1934, pages 146-7, 1935, pages 923-30, 1936, pages 134-70, 1937, pages 105-7, 1938, pages 945-79 and 996-7)

"All true education has its origin in life, and life can be kindled solely through life"

(From the Decree of the Reichs Minister of Education, Rust January 29th, 1938)

(a) THE REVOLT OF YOUTH

THOSE who refer to the rather large volume of history of German education in the twentieth century will at once be attracted by the dramatic growth of the German Youth Movement,¹ which has its roots in the last decade of the nineteenth century. Originated by a small group, it grew into a movement which has no parallel in the history of German education. Before its inception the natural enthusiasm of youth was largely purposeless, since it possessed no visible aim. This ferment of enthusiasm was instigated by an intuition, not logically defined, that the time had come to leave behind the old order of life and to conquer new land, whose pure and untouched air offered to the suppressed spiritual power of youth new and more suitable conditions of life.

What happened? Did not the German Reich possess an extraordinarily rich and differentiated system of education? Did not this system offer to youth enough playgrounds both for the body and the mind? Many times it was pointed out to German teachers by critics from abroad that their educational system of this period was indisputable evidence of the sense of responsibility and efficiency of the modern State. In spite of this, something without precedent happened. Youth revolted and founded independent out-of-school agencies in associations of men which were more important to them than all the ambitious zeal of schoolmasters, offered in schools as objective science. Characteristic of the spirit of this almost revolutionary departure of youth is the well-known "Meissner formula" of 1913, in which it was clearly asserted that youth wanted to build up their lives themselves "on their own responsibility, through their own decision, according to the innermost truth."

¹ For full account see YEAR BOOK OF EDUCATION, 1938, pages 945-79

Some Reasons for the Revolt

The subsequent analytic and synthetic study of the history of education recognised clearly the reason for that revolutionary outburst. It reflected unmistakably the protest against the theory of formal training, which had gradually lost its meaning in the political development of the nineteenth century. The notion of a supra-national personality which during its growth could enjoy political rights only by attaining maturity, the demand for the bringing up of a pure man on the basis of the general principles of humanitarian pedagogics, all these ideals gradually led to a senseless emptiness in the school. The aim of education represented by these ideals was instinctively felt to be no more compelling. Youth sought for deeper obligations than the seemingly enticing promises of promotion and success in everyday politics could offer.

Pedagogical Dogmas against which Youth Revolted

How justified this protest was is seen at once if the basic principles and pedagogic dogmas of that period are clearly perceived. Youth had to define its attitude towards these dogmas without being able to complete the process by itself. One can limit the dogmas of that pedagogical world to the following brief summaries.

(i) The State and its functions, law and political economy, as well as society in general, are purposeful and efficient inventions of mind and are controlled by rational reasons.

(ii) Human beings possess within themselves a compelling tendency towards goodness. The ideal of goodness can only be completely developed if the individual is educated towards an unrestricted freedom. The problem of education is to lead the individual by rational means towards a pure, free and rational personality.

(iii) The free possession of pure reason is common to all human beings, although each is autonomous. This community of reason is really the basis of the essential equality of men and represents the unity of humanity. Reason is the basis of all human striving and leads all into the final kingdom of human harmony.

No one who examined these principles of rational humanistic education, and critically observed its results in the history of Western education, could deny that they possessed a certain creative power, for which the German school system at the end of the nineteenth century is an excellent example. With the help of the school curriculum, the pupil was subjected to a formal training which aimed at the development of his intellectual ability. This exclusively intellectualistic educational method, however, created a barrier which separated the young man from the actualities of life. In other words, the method of formal discipline was decisive, and the contents and moral aims were ignored, thus failing to engender an incentive to fight and sacrifice for ideals. The teacher, responsible for carrying out the system, built up between himself and the pupil a zone of

mediate educational action. The direct appeal and order, the educational example of a leader in a community, were denied to him by the traditional method of this period. The classic expression of this pedagogical attitude was found in the educational theory of Herbart, which dominated, almost unrivalled, the whole of the nineteenth century, in spite of the cultural critical writings of Paul de Lagarde, and the passionate protests of Friedrich Nietzsche and August Langben.

The Influence of the Herbartian Philosophy

Five aims of volition (*des Willens*) established, according to Herbart, the ideal of personality: the ideas of inner freedom, of perfection, of benevolence, of right and of justice or retribution (*Billigkeit* or *Vergeltung*). A man who directed all his behaviour by these ideas seemed to Herbart a truly moral character, the supreme aim of education attainable only through learning (*Unterricht*), in consequence he mixed up the upbringing (*Erziehung*) with learning (*Unterricht*).

It was a world of pure rationality, which by careful avoidance of independent fields of emotion, imagination and conative activity, in short, all that is irrational and is not controlled by reason, required the perfection of pure humanity and improvement of the passion-ruled world. The thin abstraction of this exhausted humanity, which as the heir of rationalism ruled the whole of the nineteenth and the beginning of the twentieth centuries, could not be destroyed by separate movements started by Lichtwark, Hildebrandt, Lietz, Otto and the Youth Movement. Its influence offers to a retrospective observer only endless variations of one theme: the inadequacy of the school and of education by its means. Its classic expression was found in the *Reichsschule Konferenz* which met in Berlin in 1920 with 600 representatives of all educational institutions, and which, of course, left no results.

The educational theory remained in general limited to the dull school benches, it lacked the great compelling ideal which would command every single person and demand from him the greatest effort and the last sacrifice. The call for leadership was quite early becoming ever louder and more insistent in this field, where an innumerable variety of different endeavours fought for the control of the soul of youth. The multiplicity of co-existing school forms was enough in itself to refute the oft-repeated assertion of the unity of the German school system.

A still more confusing picture was presented by the theory of teaching methods. The Labour school (*Arbeitsschule*), the Community school (*Gemeinschaftsschule*), the Life school (*Lebensschule*), the Production school side by side with the Learning school of old (*Lernschule*), fought each other vehemently and competed for precedence. The wish to be modern for modernity's sake made youth a subject for continuous experiment, but the good intentions

and genuine idealism of the teaching profession should be in no way underestimated

Youth, however, ran away from the school into the romance of association movements, and in the end, when the new banner of the National Socialist liberation movement, demanding unconditional sacrifice, was unfurled before them, they swore allegiance to this struggle which at last claimed the whole man

(b) THE NATIONAL SOCIALIST MOVEMENT

The National Socialist revolution and the power of a comprehensive ideologic (*weltanschaulich*) movement liberated by it and tempered in daily political struggle put an end to both the educational rationalism and the confused pell-mell of pedagogic experimentation. The realisation of the necessity for an unconditional surrender of the whole personality in the liberation struggle of the German people, the figure of the leader, Adolf Hitler, who sets an example of responsibility, direction and aim, which his followers fulfil, made the National Socialist movement one of the strongest factors in education, even before it acquired the reins of Government. National Socialism did not limit its activities to proclaiming a new type of man common to all social orders and classes, but breathed into him the spirit of a most active life within the fighting unity of the movement. It created new men's unions, where not only knowledge and possession of information were of importance, but first of all the ability to be an inspiring example to others, convincing them by excelling in achievements and duties. National Socialism, with its claim to form the whole man, not only his intellect, but character as well, has overcome the superficiality of discussions about the imparting of knowledge and division of subjects, and has struck at the roots of the existing education system which had become so problematical.

The contemplative human being of humanism, who could develop his subjective qualities according to the laws of the autonomy of the individual wherever it suited him personally, gave way to an active man whose life circle was defined by the German nation. The beautiful classic-humanistic personality standing outside of the nation, whose life circle was an æsthetic world of pure spirit, finds no room in the National Socialist national community. To him, as to every member of the nation, is enjoined the same loyalty and the same offering. The gulf between the educated and the ordinary men of the people is bridged over, and both are pledged together to the great aims of the nation. This new spirit of a young ideology (*Weltanschauung*) tempered by crisis had to look on the school with different eyes than the Liberal State ever could.

"The German school has to form a political man, who in all his deeds and thoughts, through sacrifice and service, is deeply rooted in his people and is inseparably bound with the history and fate of his State" (Frick, 1933)

Krieck's Definition of National Socialism

The scientific definition and theoretic demonstration of National Socialist understanding of problems of education was given by Ernst Krieck. Stimulated by Mosers and Herder's idea of a nation, he announced the outstanding importance of the super-individual in education. His national-political picture of man is rooted in the realisation that man always and everywhere is a community being. Body, soul and spirit possess a uniform living root, subject to the law of race. Community is the foundation pillar of his educational theory. Every human being is necessarily bound to it in life. Community is the basic and indestructible vessel of life, a biological and spiritual organism, within which the single member can find only relative independence. Consequently there is only one task of education, defined by human existence. As an original function of life education carries its problem in itself—it has to serve life and can never direct itself against life.

All human growth is dependent on stimuli, awakenings and guiding influences—spiritual movements continually involving the human being. Any spiritual development is impossible outside of the community. In this way, the individual can fulfil his own destiny and growth so long as he preserves the bond with the whole. Therefore, the ego and its subjective intellect is not the primary factor, but is subject to community as an entity of superior order, in which it lives, grows and ripens.

Repudiation of the Herbartian Philosophy

Education is immensely more than methodic planned instruction, through which individual influences individual; it is the moulding of man through the community and the adaptation of the individual to the ever-surrounding circle of life. As seen from this point, the new education is organic. The problem of education exists, therefore, wherever men live. It is an inescapable function of human life in the service of life. From this point of view it always aims at embodying the rising generation in the community, it assimilates the descendants and postulates to them the highest demands and expectations, whilst offering suitable conditions for testing their propensities and abilities.

It does not mean the annihilation of individuality (a reproach often raised by foreign educationists against this theoretic basis of Krieck's new doctrine of education), but the widest conceivable unfolding—and therefore one capable of survival—of man to the very pinnacle of efficiency. The assimilation of the rising generation into the community, viewed from this point, recognises and preserves the individuality as a natural product, but moulds it through discipline and leadership, and enables youth to produce with a purpose its special efforts in the community.

Thus is solved the outworn problem of liberal pedagogics: politics or education? Both are mutually dependent as two poles of the same unity of life. Both are directed towards the same aim,

towards the whole man and the whole nation. The task of education is thus identified with that of politics. It has to create the inner side of humanity in conformity with outer order, and through this mediation to lend the outer form of life an inner firmness and continuity.

(c) FUNDAMENTAL CHANGES IN GERMAN SCHOOL SYSTEM

How far have the basic ideas set forth above influenced the new structure of the German school system? From the outset one can assert that hardly any period in the history of German education has more earnestly concerned itself than ours has with problems of the reform of German schools, as well as of the whole system. The reasons for this are obvious. Whilst the National Socialist movement claimed the whole man, and could pay attention to him only as a national personality within his communal whole, it called a decisive stop to the separation of the educated from the body of the people, and founded a new popular education, rooted in a biological idea, and national-politically defined. The movement itself has thus become the strongest factor in the education of the German nation, whose purpose is the moulding of an individual as a member of the people, to a fully developed personality firm in volition and character, endowed with all abilities and knowledge, within the German community. For the school it followed as a matter of course that it had to abstain from trying to shape life itself, but had to direct its activity in accordance with life. Only in so far as the school takes its methods and contents from the actual life of the national community can it take a creative part in the reform of the nation. The educational problem of the school is, therefore, of a national-political nature.

These ideas permeated the *Leitgedanken zur Schulordnung* (leading ideas of school organisation) of December 18th, 1933. "The highest task of the school is the training of youth for service to nation and State in the National Socialist spirit. The total inner and outer life of the school is devoted to this task. The 'Hitler-youth' completes this work by tempering the character, demanding self-discipline and physical training. The school and 'Hitler-youth,' however, in their claims on youth have to pay full regard to the co-operation of parents in education and in the preservation and care of family life."¹

Physical Training¹

The new attitude of the German School is soon discerned by the extraordinary importance given to physical training. Adolf Hitler has himself set a demand for "training of bodies sound to the core." It manifests an ideal of a harmonious, closely bound training of body, soul and spirit. It is evident that such a new educational attitude strongly emphasises the value of training the will power and ability to arrive at decisions, as well as care for the sense of responsibility.

¹ See also YEAR BOOK OF EDUCATION, 1938, pages 20-2

It sees in loyalty, readiness for sacrifice and discretion, virtues which a great nation needs for its preservation. "To-day we do not see the ideal of the German people in the former beer-drinking young men, but in men and girls sound to the core. We want from German youth something different from that which the past provided. In our eyes the German youth of the future must be slender and fit, swift as a greyhound, tough as leather and hard as steel from the factories of Krupp" (Adolf Hitler).

The school methods of the new spirit of physical training are elaborated in the *Richtlinien für die Leibeserziehung an Jungenschulen* (Directions for Physical Training in Boys' Schools). They were published in September 1937 by the Reichs Minister of Education, Rust, for all boys' schools. They express with unmistakable clarity the refutation of the viewpoint that physical training is of secondary value in the education of youth. Body, soul and mind present a new inseparable unity. All deserve the same attentive care, because only in the closest association of body, soul and mind can exist the full man.

"(i) Physical training is a fundamental and inseparable part of National Socialist education.

"(ii) The aim and content of education follow from the National Socialist ideology, recognising the moving and preserving forces of the nation in national community, ability of bearing arms, consciousness of race and leadership. The National Socialist education is directed towards people and State. It embraces the man in his entirety, to make him ready for service in the national community through the development of all his powers—body, soul and spirit.

"(iii) As a part of the plan for a complete education, physical training assumes an important significance in school education. Physical training is not introduced for the mere purpose of training the body. It is rather a realisation that the characters of young people are easiest to train through activities associated with the body in gymnastics, in play, in sport, in movement" (*Richtlinien für die Leibeserziehung an Jungenschulen*). From the recognition that physical training develops in the national community the capacity to bear arms, together with consciousness of race and an understanding of leadership as the prime sources of national power, springs the definition of its task for the education of the community without hindrance from the personal wishes of the individual. It postulates the virtues of obedience, community membership, chivalry, as well as comradeship and *esprit de corps*. It leads through the medium of bodily activity to the creation of a fighting spirit, it moulds the body and soul as bearers of race inheritance, and demands from youth selfless courage and hardness, as well as independent and responsible action within the limits set by the conception of a team. In this way physical training furnishes natural conditions for the development of abilities of leadership, still furthered by selection. The noblest task of physical education is the training of the will and character, which is completed within the community.

The Organisation of Physical Training

According to the stages of a child's growth, the organisation of physical training is divided into three parts

(i) The period (6-10 years) of the primary school (*Grundschule*) starts with the living movement of the child "for whom it is still a unity of body and soul. The joy of bodily activity is awakened through original and natural movements and the basis for strong organs of the body is laid. Gymnastic play is the starting-point for all physical training, and its essential content is found in the primary school."

(ii) The next period (10-14 years) is characterised by surplus energy resulting from slower growth, which "drives youth to daring enterprises and the testing of his physical force, secondly, the growing understanding of the rhythm of motion is connected with the development of bodily skill. The playway activities of the primary school have become purposeful daring. Youth now wants to use and to control its powers." During this period exercises of skill are introduced, and swimming is also learnt.

(iii) The third period (14-18 years) of physical training takes into consideration during its first two years the physiological and psychological fluctuations of the transition. From the subsequent strengthening of the body, with the resulting increase of power and effort, it leads to the training for hardihood and promptness in action. This stage, therefore, requires combative exercises, as, for instance, team games and boxing.

The organisation of physical training is similar for all kinds of schools, as its structure follows the stages of child development. The "Directions" (*Richtlinien*) give detailed suggestions for different stages of growth, both as regards to methods and the requirements and values of gymnastics, sport and play. Five hours per week are generally devoted to physical training within the total timetable. As an exception, the lower four years of the *Volksschule* (6-10 age-group) have not less than three hours per week in the second and third years, and not less than four hours in the fourth year.

The Elementary School (Volksschule)

The efforts of the Reichs Minister in reorganisation of the old school were not limited to the reform of physical training. At the start of preliminary work, however, the principle was accepted that nothing should be needlessly destroyed. Every reform in this field is built upon firm laws and conditions defined by the nature of the educational system.

The general introduction of a new organisation and methods without previous demonstration in experiments and practice was carefully avoided. "The way to reform of the German school cannot be covered in seven-mile boots. The periods of reform of the education of a nation are comparable with the periods reckoned by forestry" (Rust). The "Directions for instruction in the four

lower years of the Elementary School" (*Richtlinien für den Unterricht in den vier unteren Jahrgänge der Volksschule*), published in 1937, have become of fundamental importance for the elementary school. These new "Directions" are valid for the whole Reich territory and introduce the final reorganisation of curriculum for all eight years of the elementary school. The reason for the limitation of "Directions" to the four lower years of the elementary school is due to the shortening of the course of secondary schools, which made necessary a new division of subjects in the primary school, which embraces children of all classes. The primary school (*Grundschule*), as is well known, is the common and compulsory basis of the whole German school system irrespective of the subsequent transfer of pupils to secondary schools or upper divisions of the elementary schools. The new "Directions" take the place of those published in 1921. The guiding principle, as in all branches of the German school system, aims at the establishment of a national community through education in agreement with the already elaborated aims of the National Socialist conception of life. "The education of children in the four lower years of the elementary school is conditioned by life in the Homeland. The foremost place in instruction, therefore, is given to the study of our native country." This, together with instruction in German, makes one whole. Preserving the separate laws of individual subjects, the unity of instruction and education must always be aimed at. Thus the aim is the achievement of necessary knowledge and skill, as a matter of course. All the intermediary knowledge and ability of reading, writing and arithmetic is ensured through continuous exercise.

Application of the "Directions"

The "Directions" for the primary school include a time-table, according to which the children in the first year receive 18 hours' instruction per week, which are not divided by subject, but are given in the form of a synthetic method (*Gesammt unterricht*). In the second year the total of weekly hours is increased to 22, and in the third and fourth years to 26 and 28 hours respectively. In accordance with the characteristics of this age, sufficient attention is allowed to childish experience, observation and perception. Of course the perceptive abilities and creative powers of the child are duly considered. The years in the primary school develop all powers of the childish mind, and supply to all pupils that knowledge and skill which are a necessary condition for all further education. Detailed suggestions were published for separate branches of work in the primary school, the spirit of which can be clarified by the following quotations: "In the study of their native country, children should learn to know, to experience and to love their Homeland and to feel themselves as integral members of the German people. The synthetic instruction of the elementary schools enables the study of the Homeland in a wider sense. It is more important, therefore, that the special instruction in the knowledge of the native country

during the four lower years of the elementary school should impart not only information but should lay a firm foundation for a pride in Homeland, kin (Sippe), tribe (Stamm), clan, nation and the *Führer* (leader). With all reasonable consideration, the teacher has always to remember that his task is to awaken and to care for the appreciation of the beauty and special features of the homeland and the magnificence of the starry sky above it."

In the same sense is expressed the attitude of the "Directions" towards the instruction of German. The children should be taught the experience of the mother tongue and native poetry as a living expression of their national character.

The literature selected for this purpose answers the true character of childhood and the nationality rooted in the native land. Careful and methodic training in language and phonetics, as well as exercises in literary expression, are closely connected with it, and train towards a simple, lucid and lively description.

Alongside with the regulations for the three R's and physical training dealt with above, we should mention here some suggestions for drawing and manual work. This part of instruction must be conceived as essentially a unit. For girls, a close connection with needlework should be established within this branch. The purpose of this instructive work is to awaken and to foster in the child a joy and pride in creative handwork. By this training towards reasonable behaviour and independent work is aimed at. Instruction in manual work serves the development of independence, readiness to help, sense of community and a social attitude. It is especially suitable to become of service to the community during various occasions, such as "Mothers Day," "Christmas" and school festivities. "A sense of thrift and of right politico-economic behaviour should be awakened, an appreciation of the simple and clean, of the functional and beautiful (colour and form popular art) should be nurtured."

Qualifications for Transfer to Secondary Schools

The reorganisation of secondary nine-year schools into eight-year upper schools led to one more decree of the Reich Minister, according to which children of superior ability, bodily and mentally well developed, and of good school achievements, are enabled to be transferred to secondary schools before the completion of the four-year course of the primary school after attending only the first three forms.

The aforementioned "Directions" for primary schools are only a part of general regulations yet to be issued for the elementary school, especially for the upper four years. These latter will lay down firmly the aims of the elementary school. The separate publication of the "Directions" for the lower four years should not be understood to imply that the upper four years will have a different character. On the contrary, the elementary school will be conceived as a com-

plete unity, which has to fulfil a common task with other kinds of schools towards the education of the German youth to a sense of national community and a willingness to undergo sacrifice for the Nation

The Land Year¹

A Land Year for the youth of great urban centres comes between the elementary school and subsequent vocational training. This new institution has the task of developing in the youth of great urban centres, free from school attendance, but subject to compulsory Land Year, a spiritual bond with the native soil, and an understanding of the national value of the healthy peasant class. The educational will of the German Reich reveals itself in no uncertain manner in this new creation of the National Socialist State. It demonstrates anew the opposition to the exclusive dominion of one-sided intellectual education, it subjects the young man to the forces flowing from the soil into the blood and community, it withdraws him from the musty air of closed schoolrooms of the great city and puts him in the midst of the active world of peasants' life with its yearly rhythm of sowing and harvesting. The direct contact with an existence which finds people and soil together, having nothing in common with the ways of life of the working class of urban centres, brings home to youth through practical work the values of peasants and craftsmen rooted to the soil. Closely linked with this direct education through the life of peasants is a practical instruction in social history—a study of Homeland and people, of race and heredity.

The camps are situated in beautiful and suitable surroundings, and according to circumstances, receive from 60 to 100 youths subject to Land Year. The Land Year obligation extends to eight months. At the head of the camp stands the camp leader. The number of groups and team leaders subordinate to him corresponds to the size of the individual camp. The training of Land Year leaders is accomplished in special camps for leaders. With the youthful character of the Land Year camp, it is a matter of course that it is managed on the principles of self-government and self-maintenance. Only the ignorance of the peculiar features of the Land Year can explain the attempts made in foreign countries to represent the Land Year as the ninth year of the elementary school. Its primary function is to allow the young man experience, not in school, but through direct contact with peasantry, of the special features of the peasants' world.²

The Secondary School

The reorganisation of the secondary school system, methodically carried out by the Reichs Minister of Education, Rust, since the

¹ See also YEAR BOOK OF EDUCATION, 1938, pages 965-6

² Compare "International Education Review," 1935, IV, pp. 12-21
Werner Fritzsche—"Das Landjahr"

National Socialist revolution, brought with it far-reaching changes in its structure. The special attention of the State leadership was paid to secondary schools as the institutions for selection of the best and ablest members of the people. The reform measures were defined as clearly as all other school regulations by a rigid opposition to the exclusive intellectualism of the past, which was well expressed in the Decree on Selection of March 23rd, 1935. The task of secondary schools is to educate that section of the German youth especially well developed in body, character and mind in such a way that they should later be able to help in shaping our political, cultural and economic national life in responsible and leading posts. The secondary school, therefore, has the task of selecting from youth, and to reject all the unsuitable and unworthy in favour of those who attain the required standards. The intensive testing must include a physical examination, as well as an investigation as to the character and national suitability of the whole person." By this Decree the secondary school was undoubtedly freed from that social bias which rests solely upon the parents' financial ability to purchase the key which heretofore opened the way to higher education. It aims at a true grading of rank according to achievement and political views, the whole being directed towards a mastery of the problems of life. It opposes unconditionally the modern conception of the educational ideal of the Greeks, which only results in a form of intellectualism unsuitable for life.

It aims more at a purposeful association of scientific, artistic, and physical education in a community. The school takes as its standard the sum of a pupil's qualifications, being (as it is) a place of continuous selection from all classes of the German nation directed towards ensuring the next generation of German leaders. All those pupils who suffer from incurable physical diseases or other defects, as well as those who continuously offend propriety, *esprit de corps*, discipline and uprightness, or whose intelligence does not reach a certain minimum limit, are excluded from secondary schools.

The Need for Uniformity

The final aim of various reforms, introduced since 1935, which often aroused notice abroad, is a uniform inner organisation of the whole secondary school system, which will ensure all necessary conditions for the education of the German youth to a conscious German man. A fundamental uniformity of various school types presented a pressing problem, since, in the previous years, the secondary system of Germany showed an extraordinary diversification. It should be mentioned here, for example, that there were forty-six different syllabuses in foreign languages in the boys' secondary schools* and thirty-two in the girls' schools. From the two school types—*Gymnasium* and *Oberrealschule*—at the end of the century about seventy different varieties had been developed

through rigorous differentiation, and which, through various grouping of subjects, attempted to satisfy every possible claim to consideration. The result of this practice was a far-reaching decline of the unity of education into an abundance of individual school types, which led to an inconceivable confusion of schools and to great difficulties for parents who had to move from one to another place, and in doing so were never sure of continuity of education for their children. The need for uniformity led to the introduction of a twelve-year school period, of which so much is spoken in the English-speaking countries, which means, in effect, four years of primary school and eight years of secondary school, or the shortening of the secondary school period by a year. Thus ended the period which could be characterised as "Over-schooling of children." The main reasons for this measure were social and political. The thirteen years of school period, followed by six months of Labour service and two years of military service, would be too heavy a burden for the educational career of the young people. Through a furcation of the upper stage of secondary school, to be discussed later, it was possible, not only to maintain the previous level of effective work of secondary schools, but even to raise it, and thus to solve satisfactorily the problem of preparing a new generation for the important professions during the next few years. Easter of 1937 brought in the eight-year secondary school. Thus a new type was created which received its content with the publication of the new curricula at Easter, 1938.¹

Practical Significance of the Changes

The changes led to the introduction in the whole Reich territory of a uniform secondary school type—the upper school (*Oberschule*). In places where many secondary schools exist, the *Gymnasium* remains as a particular type of secondary school. The new eight-year secondary school is based on the four years of the primary school. The six-year continuation school (*Aufbauschule*), existing side by side with the first as a central school, enables the gifted boys and girls in rural districts to enjoy secondary education. It is based on the sixth form of the elementary school and should be considered as a shortened form of the general type of the *Oberschule*. It enables children living in the country to enter secondary schools, which otherwise would be too difficult for them. *Aufbauschulen*, as a rule, have boarding houses.

The *Gymnasium* as a particular type of secondary school will be recognised in future as an educational institution essential for our culture and will include, as before, Latin as the first and Greek as the second ancient language. English is uniformly introduced in the *Gymnasien* as the third obligatory foreign language. This school type does not represent a privileged educational institution.

¹ *Erziehung und Unterricht in der höheren Schule*, official publication of the Ministry of Education, 1938.

as before, but is a component part of the German educational system

"The school must turn its back upon an 'ancient world,' which has apparently grown up naturally in the course of educational history and return, instead, to the pure Hellenistic and essentially ancient Roman culture, especially to the Nordic representatives of these cultures. The school must learn to select the features akin to the Nordic-Germanic man, and the genuine creations which alone can enrich the education of German youth"¹

In the *Oberschule*, English is introduced everywhere as the first modern foreign language. The main reason for this is that the ten-year-old child who begins to study a foreign language should be introduced to a kindred Germanic world. Only later, when he is able to observe critically, should he be allowed to choose from amongst the modern Romance languages, for which Latin, added at the age of 12 years, makes a suitable basis. In this manner, the introduction of the classics as a valuable educational subject in the whole curriculum of the secondary school is ensured. In spite of the repeated demand to ban entirely the dead languages from the secondary school, Latin is retained owing to its high cultural and logical value. At the same time, the knowledge of Latin opens the way to the study of medieval culture and science.

One of the most important features of the new organisation of the German secondary school system is the division of the higher stage of the boys' *Oberschule* into linguistic and scientific branches. In this way an opportunity is given in the uniformly shaped general type of secondary school to take account of different abilities. The "fork," however, does not take place either in the *Gymnasien* or in the *Aufbauschulen* for boys and girls.

Girls Secondary Schools

In the girls' schools, alongside with English, French is substituted for Latin as the second obligatory foreign language, which in boys' schools is taught as the third language. The secondary school for girls has retained, side by side with the continuation school, a general type throughout, the upper school for girls which branches off in the three higher forms into domestic and linguistic sides. Thus the girls receive in the secondary school education suitable to their requirements. Bearing in mind the need for an instruction associated with life, it follows naturally that the education of girls must be directed by different laws to those applicable to boys, that education of girls should never be the aping of boys' education. The natural difference of sexes is already strongly marked in the child and its circle of life. Therefore, the education of girls towards responsibility in the State and nation should develop from its own roots.

Briefly, then, the system of secondary education is as follows

¹ *Erziehung und Unterricht in der höheren Schule*, page 231

A MAIN TYPE

I *Upper School for Boys*

(1) Basic with forms 1-8

The higher stage (forms 6-8) of each school divides

(a) Scientific—mathematical branch

(b) Linguistic branch

Work in common

(a) In science and mathematics

(b) In one modern foreign language

(Compulsory languages English and Latin, and in the linguistic branch one more modern foreign language)

(2) *Continuation School for Boys*, with forms 3-8

The upper stage is not furcated

Compulsory languages English and Latin

II *Upper School for Girls*

(1) Basic with forms 1-8

The upper stage has two branches

(a) Domestic Science

(b) Linguistic

(Compulsory languages at (a) English, (b) English and Latin or another modern language

Selective languages at (a) none, (b) one modern language or Latin)

(2) *Continuation School for Girls*, with forms 3-8

The upper stage has domestic bias

B PARTICULAR TYPE

Gymnasium for Boys, basic with forms 1-8

The upper stage not divided

(Compulsory languages Latin, Greek and English)

Analysis of the New Curricula

The publication of curricula for secondary schools proves the thorough sifting of educational traditions by the responsible German authorities. Although some superfluous ballast had to be thrown overboard, the requirements of the school from young people are not lowered, but even raised, which is instanced by the introduction of the community of work (*Arbeitsgemeinschaft*) in the scientific-mathematical and linguistic subjects. "The new secondary school will maintain the young man in strict spiritual discipline, it will not refrain from teaching the youthful mind, through compulsion, facts, rules and figures in order to strengthen it and keep it pliant. But it will always keep in mind that the aim of all instruction is to develop understanding and ability associated with the realities of life and not dead knowledge, but living comprehension and ability."¹

¹ *Erziehung und Unterricht in der höheren Schule*, page 18

The fact that the conception of education has received a reorientation in Germany is the foundation upon which the evaluation of subjects in the curricula is based. Common to all, however, is an earnest endeavour to understand anew the purpose of education in relation to National Socialism. By the unifying of the secondary school it has been possible to effect a compromise between its proved tradition and the evident requirements of modern times. The new conception which is inherent in its new curricula has ensured the agreement of all those who for years passionately opposed the transformation of secondary schools into preparatory institutions for specific professions. From this conception inevitably followed the necessity to define a new aim for secondary schools. They have been assigned the task "to educate a part of the rising generation, which later will be marked out for the independent solution of actual problems of the nation."¹

They will "select young Germans from all classes of the people who are able and ready for service of higher responsibility, and educate them for an ability to make decisions and to stimulate the necessary effort in later life to carry the responsibility of a judge, an officer or a teacher."²

It is impossible in a short survey to give a detailed account of the instructions which are given for all subjects, except religion. The German language and history were the first subjects reshaped according to the new standards of selection and evaluation of material, which led to some far-reaching changes. Together with history, geography, art and music, the German language forms a closely bound unity—the study of the German world—"in which the new spiritual direction of the nation receives for the youth the clearest form."³

Instruction in German was assigned the greatest task to keep the consciousness of "Germanity" in youth "as something living and moving and to awaken a feeling of common endeavour with the creative work of living poets and thinkers."

The active man is its aim and not descriptive philology, the emphasis being shifted from the study of language to the ability to use it, from passive impressions to active creative work, from mere description of material to the comprehension of the living meaning of it in the national life-connection.

The most valid reason for instruction in history was that the historical picture with all nationally important features should be obligatory for the whole growing generation, with all those parts of history which, through the previous influence of different interpretations of the world, were considered better to be omitted. Instruction in history, together with instruction in German, is the pivot of the school in general, through which the new-born national morals reach the depths of the German life.

Its constantly compelling theme is the development of the Ger-

¹ *Erziehung und Unterricht in der höheren Schule*, page 15

² *Ibid.*, page 15

³ *Ibid.*, page 35

man people in its essential features and greatness, "in its struggle decreed by fate for its inner and outer independence. The task of history is, therefore, to impart to youth respect for the great inheritance of the German past, trust in the future of their nation, and regard for the right to live of other peoples. From the past it interprets the present and awakens a feeling of responsibility in the rising generation, which enables it to sacrifice its life for eternal Germany."¹

The change and revaluation of educational material is most strikingly seen in the instruction in biology which is filled with entirely new content. Thus it becomes a bond between all the events of daily life and the eternal development of the laws of Nature. As a subject of extraordinary actuality, it leads to the problems of heredity, study of race and racial hygiene. The intimate inclination towards a new educational ideal, so characteristic of our time, embraces in its influence practically all subjects of the German secondary school. It is recognisable everywhere, even in such subjects as geography, physics, chemistry and mathematics, as well as in foreign languages, whose educational importance for secondary schools is evident from the essential regrouping of them in the curriculum. "Education through knowledge, understood in this way, has nothing in common with the old learning school (*Lernschule*), because its aim is the whole man. Character is trained only by surmounting obstacles. The obstacles with which the learning mind has to struggle, the compulsion of logical argument, and the inexorable law of facts are not the worst educators of character. In addition, all true knowledge is not merely intellectual experience, because the contents arrived at are not only concerned with the reasoning power, but widen the point of view, enhance the sense of responsibility, enrich the imagination and train in obedience, modesty and spiritual discipline. Thus it shows not only the great importance of selection of educational material in secondary schools, but also proves that the inherited opposition of "formal" and "content" education does not exist in actual life."²

National Political Institutions

Within the reorganisation of the German secondary school system a special task is assigned to the national political educational institutions. To them is given a special position within the German school reform. Their peculiarity is based not so much on the curriculum which they share with all other German secondary schools, as in the community training through the school society itself, and in the leaders and teachers responsible for the life of the institutions. The existing fifteen national political educational institutions are maintained by the State and are subject, as is the whole German school system, to the supervision of the Reich Minister of

¹ *Erziehung und Unterricht in der hohen Schule*, page 69

² *Ibid.*, page 17

Education, who for their control created the *Landesverwaltung der Nationalpolitischen Erziehungsanstalten* (administration of national political institutions). These institutions impart not only many-sided instruction, but also exceptionally hard training. They admit only eminently suitable youths, completely healthy, racially without blemish, with fine characters and superior mental ability. The deciding test for admission is solely the personal disposition of the candidate, and he can remain in the institution only by reason of his efforts and behaviour. Side by side with a fundamental scientific education and training of character, great attention is paid in all institutions to the most varying forms of physical training aiming in the same way at a many-sided development. Every youth by belonging to a national political institution is automatically a member of the Hitler Youth (*Hitlerjugend*). Both in school and on leave, the boys wear a uniform and equipment supplied by the State. But enough has been written about the organisation and purposes of national political institutions, so a detailed description of their educational aims can be omitted here.¹

The Adolf Hitler Schools

By a Decree of the Führer and Reichs Chancellor of January 12th, 1937, the *Reichsjugendführer* (Leader of the Reichs Youth), in co-operation with Dr. Ley, Leader of the German Labour Front (*Arbeitsfront*), was empowered to found Adolf Hitler schools of the NSDAP (*National Sozialistische Deutsche Arbeits Partei*). They represent the units of the Hitler Youth and are subject to the administration of the Reichs Youth Leadership. In these institutions the National Socialist movement has created its own educational system, which was not transferred to the State authorities, but retained under its own control and administration. At the same time the Adolf Hitler schools serve as preparatory schools for the National Socialist *Ordensburgen*.² The curriculum, the teaching staff and educational material of these developing institutions were determined by the Reichs Leader of Youth and the Reichs Organisation Leader of the NSDAP uniformly for the whole Reich. The Adolf Hitler schools include six forms. The admission of boys generally takes place at the age of 12 years. Only those boys are admitted who pass all the tests in the Hitler Youth organisation, and who are recommended by competent higher officers of the NSDAP. Education is free. Up till now, the foundation of ten such schools is under consideration.

The School and Hitler Youth

The German school is no longer a non-political structure in the sense of the Weimar State of many parties, which rejected any political claim with the formula "Within the school and its

¹ See *International Education Review*, 1937, Heft 3, pages 161, articles by G. H. Rowan-Robinson, J. W. Tate and Christopher Sidgwick.

² Exclusive boarding institutions of the NSDAP for married adults.

institutions, the pupils have to abstain from all political struggle and any emphasis of a partisan point of view. It is forbidden for them to take any part in political activities within the school and its institutions." What a world lies between these regulations of service and the *Leitgedanken zur Schulordnung* (leading ideas of school organisation), which established as the highest task of the school "the education of youth for service to nationality and State in the National Socialist spirit," and have expressly pointed out that the Hitler Youth completes the work of the school by tempering the character, enhancing self-discipline and physical training. As a matter of course, the Hitler Youth respects the school administration and requests its members to obey the school orders. By abolishing many hostile opponents within the Weimar State and its school organisation, the Hitler Youth has been enabled to become a part of the movement supporting the National Socialist State which represents the supreme association of the youth of Germany united under the new ideal, and at the same time the independent bearer of the out-of-school education of youth. Its co-operation in the education of youth, side by side with the parental home, cannot be any more brushed aside. In contrast to the seemingly unsurmountable contradiction between the school and Hitler Youth before the change of power, National Socialism has combined both in the service of the same task—education of the young man. Hitler Youth is distinguished from the school, not in its essential purposes, but in the outlook and methods of its out-of-school educational activities. The co-operation of both organisations has found its firm legal basis in the Decree of the Reichs Minister of Education in February 1938. By it, the appointment of teachers in trust for Hitler Youth was ordered, whose task is a continuous mediation between the school and Hitler Youth and who, therefore, are experts and advisers in special educational activities for Hitler Youth in the school. In them, the two educational forces are united in organisation, they ensure the living co-operation of both, at the same time maintaining fully the authority of the headmaster, appointed by the State.

The new State thus consciously made the youth a co-worker in the fulfilling of its educational tasks. The most recently recognised power in the German educational system is, therefore, the youth himself. In the units of its organisation, the son of a captain of industry wears the same dress as the son of his employee. It obviates class pride, class hatred and educational conceit. As a natural union of comrades, it recognises only one distinction—the nobility of effort; it does not ask about class and property, but only about the personal value of each individual, his willingness for sacrifice and his ability of effort, and its uniform is not a sign of pre-military training. The educational activity of Hitler Youth is not, therefore, an intervention in the field of school tasks. Both have to fulfil essentially similar tasks, the unity of which follows from the compelling National Socialist aim.

The New Educational Ideal

The new organisation of the German school system is determined by a new, national political conception of man, which introduces the deciding phase of our era in German National and educational history. The next period of history and its bearers will be determined in a wide measure by this conception of man. In comparison with its predecessors, the new conception in education has the following advantage: it is not a new belief which directs the educational activity of the German nation, it is more a new realisation of its basic conditions, its reality and its content of life in the German nation on which it is built up. The school has finally abandoned the old Liberal ideologies to follow, instead, a new realist goal. "The National-Socialist revolution of ideology has replaced the phantom of an educated personality by a figure of an actual German man, i.e. a man determined by blood and historical fate, and in place of a humanistic ideology has built up an organisation of education which developed from a consciousness of community through actual struggle. Only from the spirit of this political discipline can grow a true education as a central task of the future school, which does not paralyse the enthusiasm of the young German, but enhances it and directs it towards an ability to undergo sacrifice." ¹

PHIL GERHARD GRAFT

Erziehung und Unterricht in der höheren Schule, page 12

CHAPTER THREE

EDUCATION IN EIRE

(See also YEAR BOOK, 1937, pages 239-46, 1938, pages 241-8)

The Cultural Policy of the Irish People

National Decision in Favour of Gaelic

BEFORE, as well as after, the enactment of the new National Constitution of Ireland in 1937, the main aim of the public policy in education has systematically been the rapid and thorough restoration of the Irish language in a national organisation of primary, secondary and university institutes and vocational schools, and to expand this cultural influence to the entire body of the people. The Gaelic speech, as well as all its accessory forms in literature, music and design, is to be completely recalled to its service of the country, by being made the leading instrument of instruction and of thought in all grades of education. This definite public policy, launched by the Gaelic League in 1893, reinforced strongly by the further academic advance of 1908-13, given official form in 1920-1 and later, has now become universally operative. It assumed its full place over all educational programmes under the Cosgrave Ministry in the years 1925-8 and later. No change whatever has reacted against this national decision and action under the De Valera Ministry of 1932-8. The very limited areas of critical dissent, which have at times become manifest in the Press and in public speech, have at no time been able to issue into any definite and formal challenge to the forward Gaelic policy of both Ministry groups. No leader of opinion has ever even attempted to call for a departure from what is universally taken to be as settled a matter as is the national flag itself.

Strength of Opinion in Favour of Gaelic

It is, for several reasons, of international importance that this initial and permanent force in Irish education be made abidingly clear outside Ireland. Some of the public evidence on this vital matter may therefore be appropriately set out, in very brief form, at this point, and some of the results of the national decision itself, emerging in quite later years, may suitably be here indicated. It will also be advisable, therefore, not to shrink from entering on what some may term politics, although, in point of fact, there is here no political issue at all. Indeed, there is in no way any controversy on principle. The two main public parties in Ireland, those best designated by the names of their leaders, are, and always

have been, led by men who are thorough adherents of the National Gaelic Language Policy. So are their principal supporters on each side, their Vice-Presidents, when in office, 1922-31 and 1932-8, being at all times personally most active in practical action for the rapid realisation of the language aims. Nor is there the slightest expectation that any of the principal persons in either political organisation, or any significant number of their parliamentary supporters, will at any time seek to depart from the set and settled path, followed by both parties. Again, there is no expectation that, if the heads of either political force at any time deemed it advisable to modify policy on such an issue, they would not find such a change certain to evoke disaster to their own political interests. At the first possible moment their voting lists would simply spell out to them that ominous word—defeat. It would, long before votes should come to be recorded, be spoken of, loudly and widely, at every regional party meeting. Thus the two sets of political leaders are in the position that they know well the settled mind of the mass of the people. They themselves exemplify it, elucidate its import and give it executive effect. They are its convinced upholders. But even if they were not, they fully realise that they could not, even if they would, in any way alter its main trend.

Findings of the Royal Commission of 1824

The settled situation within Ireland, thus described, is but one permanent and well-defined result of a central fact or doctrine concerning the mass of the Irish people, the main body constituting that one Gaelic nation, which was the significant outcome of the seventeenth century. Its power of decisive action concerning the education of the successive generations in Ireland, it will be clear, had better be exemplified at once. The text that follows is taken from the unanimous Report of the first Royal Commission that ever came into being for Ireland. This was the body of five, set up in 1824. It consisted of one Catholic member (A. R. Blake), the first Catholic official ever appointed at Dublin Castle, where he was Treasury Remembrancer for a full generation, and with him three Anglicans, and one Presbyterian from Glasgow, Mr. James Glassford. By a majority, it was strongly and publicly set against Catholic Emancipation, just five years away. Even the Castle Catholic official was fixed in his views in favour of an education policy that the people were against, just as he was also firm in his judgment that to displace the then Established Church would be a calamity. These views are briefly put down here, in order that the significance of the unanimous finding may be realised. That Commission was faced with the issue as to the use of public money in education. It knew well that the vast bulk of the very considerable annual grants by the State were regularly handed over to be dealt out by exclusively Anglican Boards for Anglican purposes in Ireland. Their statement of views, and their conclusion that the

people had a mind, a most decided mind, on education, then follows in these plain terms

"We, in the first instance, considered whether it would be desirable to recommend a grant of money in aid of schools, to be founded and directed by some Roman Catholic body to be selected for that purpose

"We entered into the consideration of this subject, with our minds deeply impressed by the inexpediency of establishing a system of separate education. We had observed, in our examination of these schools, that they possessed a character peculiar and distinct

In the practice of these schools, religious and general instruction are so blended together, that unless the course of teaching should be wholly changed, they could never afford any other than a strictly Roman Catholic education. On examining the books, we generally found them to be such as would be used only by Roman Catholics

"Were we to recommend a grant of money in aid of such schools, the result would be that they would be eagerly supported by the Roman Catholic body, their numbers would increase, and the masters be better paid, the schools better supplied, and the instruction rendered more effective, but its character would still remain the same. The Roman Catholic children would also no doubt universally withdraw from every other description of schools, and from every opportunity of being associated with Protestants, and after a short time two systems would be established in the country, in which the children of the two persuasions would be so educated as to be more than ever estranged from each other

"The evils with which separate education are pregnant necessarily fixed our attention on the benefits which would result from a contrary course. We were led, therefore, anxiously to seek for the means of establishing a system of united and general education "

Evidence of a National Will on Education

This categorical pronouncement, it need hardly be said, is not adduced here and now because of its particular import as to types of educational organisation, useful though the main finding is in explaining the entire trend of all education plans in the whole of Ireland from 1824 to 1938. A quite distinct and equally permanent historic fact emerges which illustrates clearly that there has always been a definite policy on education, a definite national conviction on leading principles of action to be given universal effect. That is the settled fact, fully in existence in 1824—and at all later times. The five Royal Commissioners were absolutely convinced of its existence, of its activity, and their holding of that view was all the more convincingly proved by their own total opposition to the decision of the people. That is the enduring public fact. It is a fact given set form and action, not only in 1824, but again, under

O'Connell's positive policy, from 1845-50 on Peel's University Act. It has always given definitive direction as to public procedure, and that not only on the common territory of religion and education, but also on movements of a more general range, down to, and including, the Birrell Devolution proposals of 1907, and it ended some of these lines of action, despite a good deal of admiration for such plans, actively avowed by many such experienced leaders as all these movements produced. What always obtained in major political affairs was no less evident in the domains of national culture, and of educational systems. Thus, in the period 1908-10, it took a line so fully definite and decisive on the issue of what was epigrammatically called "Essential Irish," that many eminent servants of the people, with a life-record of high educational service, simply subsided into silence, and never said a further word in favour, or even in explanation, of their divergent view. It responded, at that time, to the amplest expression of support for the expressed purposes of the then President of the Gaelic League, and did so by strengthening his hands. The President of Ireland, unanimously elected to that office in 1938, is that same Dr Douglas Hyde who sensed their decisive energy thirty years ago. Neither he, nor any others among the prominent figures in education thirty years ago, had the least doubt that the decision as to language in education then taken, some fifteen years after the start of the Gaelic League, was a definite fixation of public procedure of a most permanent character.

Significance of the Use of Gaelic

Again, no one conversant with Irish affairs all down that modern period since the opening of the eighteenth century can have any doubt whatever that such popular decisions have, time and again, been most definitely formulated, often with great rapidity and even great silence, and often without any reference to the expressed contrary views of notable leaders of opinion. What O'Connell thus experienced, and that more than once, was equally sensed by later forces in public life. The decision of three decades ago, on the Irish Language issue, has at all later stages been ratified and reinforced by the emphatic, if quiet, mind of the whole mass of the Irish people. This it is that has, at every later point, strengthened on the dominant issue in national culture and training each successive governing party and each Education Minister. Nor does this formative effect operate only on the idea set out as the leading force. Very often it penetrates into executive details, selects definite plans of action. Departments of Government, even high officers within them, sometimes are pleased to think that they are graced with the capacity and mission to initiate, to decide, to put driving power into action. The Irish people, as a rule, treat such instances of amiable professional complacency with a good outpouring of tolerant, dry, yet not unkindly humour. It is all in the day's work.

It may now be taken for granted that in all the various branches of the University Faculties which serve the Gaelic nation of modern Ireland, new appointments to Chairs can henceforward be made with full confidence in the academic competence of the holders of such positions, and who are competent and willing to teach through the Irish national tongue. The effects of this transformation, worked for from 1910, will be of a far-reaching character for the advance of a fully national culture and scholarship.

Social Equalities of Educational Opportunity in Modern Ireland

Ever since Schmollel, speaking as Rector of the University of Berlin some thirty years ago, pointed out as an assured cause of social unrest the absence of even an approach to equality of opportunity in education, this major issue has come to cause searings of heat among thinkers in many nations. This anxiety was as notable in the Germany of 1917-19 as it was in the France of the same period, and its results have been worked out by varying ways, down to the complete effect given to this implicit claim to equality, in the French State primary-secondary system, as working in 1937-8. Both grades are free of all charge for education costs, to individual pupils, and to their families, but for the years of the secondary stage, there is established in France a system of strict entrance tests, a procedure of orientation, and a succession of annual proofs of combined ability and application.

The emergence of a common question-note as to the situation within England was obvious in the utterances of Mr Baldwin, towards the close of his tenure of the office of Prime Minister. Plainly enough, he expressed doubts as to whether the access of ability to leadership in life and public affairs was at all sufficiently provided for, given the influence, in the education system as a whole, of family means and family position. Using the best available elements of recent research work, and especially the papers of Professor Lancelot Hogben and Professor J. L. Gray, Sir William Beveridge has recently presented this problem of social equity in education in a lengthy special article contributed to *The Times* (June 16th, 1938). His recent experience as Vice-Chancellor of the University of London, added to the evidence that naturally comes to the Master of University College, Oxford, naturally gives much weight to the perturbing conclusions which that article tends to indicate. They will be referred to in the course of this necessarily general survey of social factors affecting modern education in Ireland, especially in quite recent years, for the issues are by no means limited to Ireland—they are really international in character.

Absence of Class Distinction in Secondary Education

The basic fact, necessary to a command of essential positions in Irish education, is the relation between primary, secondary and

university opportunities for ability. This fact has long been well determined. The key, as is obvious, lies in the secondary lock. There are now close on 350 secondary schools in the bailiwick of the Dublin Ministry of Education, and none of these schools are in any sense schools of either a central or local civic authority. The system has, in effect, been at all times one provided by the enterprise and the executive ability of the dominant factor, clearly designated in the preceding section of this survey. All schools have long been dominantly religious in origin, scope and aim: they are either Catholic or Protestant (Episcopalian, Presbyterian, Methodist). All are also schools inspected, examined, advised and staffed under State regulations as to qualifications and efficiency. Under such a voluntary system, public grants of a very substantial character annually aid all these secondary schools. These extend not only to the school population itself, but also to the secondary teachers. As to these, a State Registration system, in exclusive operation since 1925, after the close of an eight-year transition period, requires from all a university degree, a subsequent university training course and diploma in teaching and definite professional service. Without all three, there is no access to the considerable State additions to school salaries, and consequently no access to the public pension system. The result is that this entirely free concerted action between the Ministries of Education and Finance, on the one side, and families, schools and teachers on the other, is practically universal for the three millions of people governed at Dublin. The number of schools thus organised is, for the population, entirely in excess of what obtains in most other countries. The system enables the small secondary school to flourish all over the land, on equal terms in all respects, with those larger schools, reaching to over two hundred recognised secondary pupils (11 years of age and over). But these relatively larger units are themselves only a moderate element in the whole plan. The wealthy endowed school, termed a "public school," and all its congeners, is without substantial presence in Ireland. The secondary school population, and all else, is homogeneous in sources, work and outlook to a very high degree, and that for the social reason that there is no such thing as an upper or influential social class in Ireland, having any such position as would at all enable it to establish a separate or even distinctive educational type.

Thus there is nowhere in Ireland any distinction such as that aimed at in England, between the "public school" (which is a completely non-public and private secondary school) and those schools usually segregated from them by the term "secondary school." All the secondary schools in Ireland, even the most expensive boarding schools, have a common source of supply of teaching power, all regularly qualified for public service and its associated recognition standards, that supply is drawn from the same schools of education and the same preceding undergraduate preparation for professional work. The public mind of the country

has effectively established for them all a common set of standards of class-work and of examination attainments. These are mainly based on qualifying tests, taken on lines always identical for girls as well as for boys, operating freely in all schools, though any school authority can at any time withdraw from all relations with the Ministry of Education. This system, well established long before the Belfast Ministry separated itself from Dublin in 1920-2, remains substantially the same over the entire country ever since.

The Public Elementary School as Basis for all Education

There is also in full action over the entire thirty-two counties of all Ireland the striking social principle that the ordinary "Public Elementary School" of six counties, no less than the "National School" of the larger region, is the settled source of supply for pupils, whether for residential or for day schools. Thus the writer was, for several years at the period 1894-1906, the senior classical master in the largest residential Catholic school of the period. It very rarely occurred that any boy, in a long succession of classes, had not had the benefit of several years' education in the standard primary schools, and what was and is true of the pupils holds equally in the case of the teachers in secondary schools. Again, as one of a State Committee of Inquiry into Secondary Education, 1918-19, at Dublin, he was publicly told, by the then Principal of the largest Protestant day school at Belfast, that all his hundreds of pupils were all drawn from the public primary schools of that city, and that one of his hopes as a headmaster was that they would come over sooner than they were inclined to do, that is, at so late an age-period as 13 to 15 years. Nor was this situation at all due to the presence of "free-places." Quite the opposite: the average secondary school fee in that very large school was as high as fourteen to sixteen guineas a year, a high figure at that date.

In all this there is a widespread social unity which is very far indeed from what we read of in Sir William Beveridge's account, published in mid-June, 1938. "An Oxford mainly composed of ex-elementary schoolboys would," he takes note, "present the University Appointments Board with an insoluble problem", and some very curious and unexpected facts emerge in the following paragraphs, facts that simply could not present themselves in the well-evened Irish tradition. There, the daily experience of the popular secondary school set down in an Irish countryside town gives every assurance that a pupil of ability and industry has as clear a way to the top of the scholarship lists, at 16 years or 18 years of age, as has the ablest lad or girl in the most expensive residential school anywhere in Ireland. From the experience of the Master of University College, Oxford, it is clear that in England "scholarship selection, as now administered, in place of correcting family privilege, follows it too closely, giving too freely to him that hath." Then follows proof, here summarised. In 1933-4, the very

costly group of schools, termed "public and private," obtained 78 per cent of all college entrance scholarships at Oxford, and 74 per cent at Cambridge. It took twenty years to lower these figures by 11 per cent each. Such awards are proportionately ten times as great to entrants from "public schools" than to those from "other secondary schools." The new State Scholarships of 1918-37 similarly serve "public schools" three times more than the "others." As to the Kitchener Scholars, 70 per cent of those at Oxford and Cambridge derive from "public schools," and, the most significant point of all, awards go to officers' children thirty times more freely than to the children of "other ranks."

Importance of the Day Urban Schools

Such types of quite recent academic trends have also, however, their great lesson both for urban and for rural Ireland. A very great proportion of the day secondary school population of this country to-day is educated at the popular day urban school, entered by the children of the townspeople and of the countryside for some six to ten miles around. These day secondary schools, which are a marked majority both in numbers and in population, charge fees so low as to be nominal. They are enabled to do so by the universally available State capitation grants for pupils 11 to 18 years of age, as well as by the liberal increments of salary added by the State to the pay of all registered secondary teachers. A marked result of this is that the small local day school has little, if any, advantage over the largest and most notable urban day schools, or over the costliest residential school. Examples are the secondary schools of the Irish Christian Brothers, a unit that covers nearly half the work of the country as to boys, while similar popular provision is made by the Irish Sisters of Mercy. Between them they provide from 130 to 140 of the 360 secondary schools of all Ireland.

The Problem of Finance

But even with this comprehensive school service of secondary education, it is not yet secured that the entire mass of ability is fully developed. The money provision for the able pupil is not at all adequate to give the child of the really poor family an assured course through secondary and through university studies. Thus the Dublin Ministry of Education has set a good example by giving able pupils from Irish-speaking areas proceeding to degrees at University College, Galway, £110 a year. But the number thus benefited and given equal opportunity for higher studies is just five each year. The two hundred scholarships at the same standard for age attainments, and studies in progress, awarded by County Councils and by University Colleges, nowhere approach such an annual sum. The really poor students are not at all yet afforded, either as to their numbers with ability or as to their reasonable academic outlay over a term of years, a competent provision. The

same is substantially true as to secondary studies, for the requisite six years between primary and university work. Hence, even in Ireland, the ability and industry of the poor scholar are by no means fully drawn on for the public benefit and for the fullness of social opportunity. This is as fully true under the Belfast Education Ministry as under that at Dublin. In both regions of Ireland it would appear to call for a thorough exposition of the facts, and for remedial action by the central rather than by local authorities. It is now evident that in Great Britain the main costs of all grades of education have come to be, and will increasingly be, borne by the central public funds. This has always been the case in Ireland, and it is not to be expected that, now or henceforward, any local public authority will be at all willing to add to its responsibilities as to the finance of secondary and university education.

Examples of Present Progress

The general improvement in the conditions of primary and secondary education, both stages being under practically universal public regulations, has been quite steadily maintained during the past fifteen years. The Education Act of 1926, replacing a very inefficient law administration as to school attendance, set up by the English authorities over a generation before, has brought the average attendance up to over 84 per cent in a country which has a great proportion of rural schools in districts not very favourable for high attendance levels. This figure obtains for the full compulsory period 6-14 years. But there is also a large measure of very junior learners, 4-6 years of age, and a substantial figure represents those attending after 14 years complete. A population of 2,950,000 gives a school roll of 410,000. The advance of secondary education brings the total of recognised, inspected and financially aided schools to over 330. Of these, just a quarter do all their teaching work through Irish, and some 35 per cent more do a substantial, often a major, part of their teaching through the national language. At the two public examinations, while there is no requirement to take either of them, the percentage of papers answered through Irish is Latin 26, Greek 31, French 32, German 66, 40 in history and in geography, rising to 75 in botany and in general science. There is a moderate premium, not exceeding 10 per cent, on such answering, and a very substantial figure represents answering through Irish at National University entrance. This is taken at a considerable matriculation fee by over 3,000 students, the number who pass being approximately 60 per cent. While the rise in numbers in all the Faculties of that new and flourishing group of four University Colleges, all of which are much older than the University Act of 1908, is very notable—it went over 3,500 in 1937-8—it is regrettable that the annual fees for courses have risen too, being now over £18 per head in the largest college, at Dublin. The total State outlay on the college is now at the rate of £60 per student.

per year. The academic statute of 1936, creating a Federal Union of members of the University, has enabled prompt expenditure of some £40,000, cash already available, for social and recreative purposes, such as Union buildings, sports grounds, boat club, and much besides.

A quite notable number of students enter both the National University Colleges and Trinity College, Dublin, from the six counties of the north. The number of students on the books in that oldest and wealthiest of the three Irish universities is 1,470. A quite considerable number of advanced students are sent annually out of Ireland to Continental centres, on a liberal system of Traveling Students, awarded on a competitive basis. It may well be said that this is the best system of maintaining academic contacts abroad, and it certainly has enabled the National University to provide most efficiently for its own staff needs.

The New Irish Technical System

Its Adjustment to the New Industrial Policies

The forward constructive policy for vocational and technical education in Ireland followed, in the period 1929-31, on the Education Act of 1926. By 1932-3 it was clear that the expansion of localised industries, a main aim of the economic policies of the State under the Executive Council elected in 1932, would most powerfully influence the whole work of the reorganised technical system. Such a system, both for towns and cities as for rural areas, would have to play its part in implementing the development of many new industrial skills all over the land.

Transition from the Primary System

Transition from the primary system, bringing pupils up to 14 years of age complete, in all of the eight-year (6-14) school courses of general education, is being provided for in two main ways.

The first of these is the day vocational school. Within the past six years (1932-8) every Irish town of moderate size (4,000 to 7,000 people), and numerous villages, have had provided new day vocational schools, taking in on a voluntary basis pupils 14-16 years of age. The constructive work is expanding so quickly that statistics are inadequately available. Many county committees are at work on new schools for centres of lesser importance, with about 1,000 to 2,000 inhabitants. The typical new school has six to eight rooms and takes both day and evening classes. The enrolment for 1937-8 went over 14,000 pupils. Those that ride bicycles to attend from six or seven miles out are naturally more earnest than the residual output of the town schools where a good secondary school, well organised on the full public system with very small fee charges, is nearly always available to take over the progressive pupils of the elementary curriculum at 11-13 years of age.

Significance of the Day Vocational School

Returns from the whole new network of day vocational schools show that practically every pupil leaving their courses finds entry into good local employment. The types of activity are very numerous and disparate. A fair beginning has been made with the rural vocational school. The town and village schools can count on an attendance of 140 pupils in many cases, and seldom go below 100. The rural school rarely exceeds 40 to 50. It is not easy to provide the specialised staff required. Counties that now have set up rural schools find it advisable to have one whole-time resident teacher and to share two or three part-time members of the regional staff with neighbouring schools. A rural science teacher, a manual instructor and a domestic economy teacher are the standard needs.

The day vocational school is most frequently planned so as to lead up to systematic apprenticeship worked in the junior technical courses in large towns and cities. These courses are normally of three years' duration. They are conducted in concert with employers' associations and trade unions.

A notable instance of such a scheme is that established for the work of the Irish Sugar Company, which has a system of regional factories to cover the country. Carlow, Thurles, Mallow, Tuam have intense seasonal activities. During the "off-season" one-half of these apprentices of junior standing attend a local technical course, and the remainder are at maintenance and repair work in the factories. Senior apprentices, in the latter years of the total six-year period, are all assembled in a central Dublin school, aided by a public scholarship scheme. This type of organisation for the new industries of larger volume is being applied rapidly to cognate services, such as the motor-fishing boat work on the West Coast. Another full application has been made in the printing trade. The Apprenticeship Law of 1931 is thus now coming into wide action, as in the case of the furniture trade.

The Problem of Staffing

The staffing of the commercial classes in all the vocational schools has made fresh demands on the graduates in commerce of the three National University colleges, and the difficulty of giving these graduates a professional qualification as teachers is being solved by the use of the classes of larger urban technical institutes near the university centres as places of initial professional practice during the students' fourth university year. The same plan is being used for the equipment of graduate teachers of rural science, though additional provision has had to be made for this in conjunction with the Faculties of Agriculture organised from 1926 to 1927 at the University Colleges of Dublin and Cork. The provision of a National College of Art at Dublin, 1935-7, will assure a much-needed supply of fully qualified art teachers.

All the teachers in vocational schools are now required to possess themselves of a high and fully standardised qualification in the command and use of oral Irish for use in class work. Examinations for this State Certificate are held frequently. During the brief transition period from the old system to that which all have now to meet, it is provided that the recognition of an unqualified teacher cannot be for more than one year at a time, and a person qualified in Irish must receive the preference of the County Vocational Schools Committee. The preponderant financial contribution of the central funds to the total cost of vocational schools enables the Ministry of Education to press into rapid action this most important aspect of the national aims and policies regarding the Gaelic language and its allied cultural processes in music, dramatic art and craftsmanship.

Examples of Progress

Nothing so much impresses the public mind as to the vigorous progress of vocational and technical education in the Ireland of the new industries, as the proceedings of the Public Congresses of Association of County Committees, which includes the principals and staff teachers of the new schools. This has led to a series of special committees promoted by them, in conjunction with the Dublin Ministry of Education. These six bodies are at work on the plans for selecting and training teachers in the main public lines of (1) rural science, (2) woodworking, (3) metal work, (4) engineering and mathematics, (5) commerce, (6) Irish and cultural subjects.

Twenty new regional schools for local needs were opened in 1936-7. They afford a fair sample of the demands which are rapidly being met. Thus an engineering class at Kilrush on the western seaboard of Clare, the opening of new and special factories at Sligo, Carrickmacross, Bailieboro and at Manorhamilton in Leitrim, have led to adjustments in local teaching provision. Whole-time day classes for hotel service have done very well, as at Kilkee and Lisdoonvarna in Clare. Home spinning and dyeing were being taught at centres in Counties Galway, Clare, Leitrim, a course in the use of vegetable dyestuff drew over one hundred learners at five local centres in Connemara. With improved spinning-wheels, fine work is being undertaken in several centres, and it is gratifying to note that the products of these, and of many very varied activities, are being retained by learners for local use. The growing of vegetables for home use is being extensively taught in County Limeick, and boys are being trained all over County Louth for this essential form of "subsistence farming." Students' Unions are now a leading factor in the life of vocational and technical schools in very many counties. The assemblage of specific groups of maturer apprentices, from all over Ireland, at specific full-time technical courses in Dublin gives an excellent outlet for these cultural

activities, calculated to connect the whole country for real "network" action. Besides the Irish Sugar Company's full-time centres for advanced training, (1) sugar-beet, (2) fitters' and turners' work, (3) electric factory installation, and (4) the compositors' course, this service was extended in 1936-7 to motor garage work, motor-body making and decoration, cinema operating, electric welding, bakery technology, handloom weaving, and the making of nails and screws. Much has thus been done to train local supplies of competent workers in the wide range of new services.

The principle of concentrated local direction to local needs and uses has thus complete possession of the advanced grades of work in all the new technical schools. Toys, pottery, buttons, publicity work, are striking examples of organised courses connecting the general system of technical education with specific and even single industrial concerns dotted over the country. Since the London agreements of the spring, 1938, it is quite clear that this variety will soon be greatly extended and the authoritative declarations of the Ministries of Commerce and Agriculture assure its full continuance and very considerable expansion. Technical schools, their teachers and their County Committees have thus a plain and open road to follow, based on Home Production for Home Use.

T. CORCORAN, T. C.

SECTION TWO

The Year's Work in English Education, 1937-8¹

I EDUCATIONAL THOUGHT

(i) The Sociological Emphasis

IF any predominating theme is to be sought as the connecting medium of English educational literature in the past year, it is almost certainly to be found in the intense interest shown in sociological problems, as these have a direct bearing on education, especially in problems concerned with the nature, validity, explication and organisation of Democracy. Hence educational thought is found concerning itself with the fundamental problems of the social order into which the young are born, and for the maintenance or reshaping of which they are to be educated. The teacher, Professor Fred Clarke, declares, "must be a social philosopher and hold the key to the situation of his time" he should be trained in the story of the changing adaptations of education to suit the changing aspects of social life. "The atmosphere of ideas of people of his day must be known so as to give a proper background, e.g. the ideas underlying communism, democracy" ²

Educational thought can no longer confine itself to problems of schooling, and, in consequence, the field it presents is a wide one and attracts writers and thinkers of high distinction for whom the discussion of traditional pedagogy would have little interest.

(a) *Evaluation of Democracy*

Discussion of democratic values and of the adjustment of educational means so as to ensure their just appraisal and voluntary

¹ The term *English* is employed, as in the phrase *English Studies*, to denote contributions to education written in English, whether published in England, Scotland, Wales or one of the Dominions, and without reference to particular topics discussed. It has been slightly extended to include books by American writers published both in the United States and England, and which deal with problems of general and not purely American interest, and, in the present instance, to permit of reference to a contribution on contemporary German education specially designed for the information of English-speaking students of education.

The *Year* is to be regarded as stretching normally from July to June inclusive, but the present survey may be found to contain mention of books published slightly before July 1937, while the fact that not all books "noticed" are sent direct by the courtesy of the publishers, but that some require to be sought out in the public libraries, at which they do not necessarily arrive by the operation of the Copyright Act until six months after publication, may result in postponement of mention to a subsequent survey.

² In *Educational Adaptations in a Changing Society* Report of the New Education Fellowship Conference in South Africa, 1934, edited by E. G. Malherbe, Juta & Company, Capetown, 1937, pp. xv + 545.

acceptance by the citizen, young and old, has occupied the attention of several writers. In *Constructive Democracy*¹—a symposium published under the auspices of the Association for Education in Citizenship—Sir Ernest Simon, Lord Halifax, Lord Lothian, Sir Alfred Zimmern, and others present a many-sided analysis of Democracy. Democracy, as Sir Ernest Simon explains it, in "The Faith of a Democrat," is "not only a form of government, but also a way of life," which must be prepared for by suitable education. The same point is made in *The Challenge of Education*²—a composite book by Stanford University Education Faculty—which contains the warning that the values and conditions of democracy can only persist if they are provided for. Preparation for participating in free discussion and in the affairs of public life appear to most English writers essentials of sound education. The school curriculum, they feel, ought to be adjusted so as to provide graded opportunities for service and co-operation.

The emotional element, however, must not be overlooked. As Bertrand Russell writes in *Education for Democracy*,³ "You cannot get any kind of good life, without a basis in the emotions," and if democracy is to be workable, the education of the people's emotions must be carefully supervised. Desirable emotions must be encouraged in early childhood, and hence autocratic parents and autocratic schools must alike be transformed if democratic citizens are to be produced. Yet bias and indoctrination must be avoided, since "the business of education is to teach people to form opinions for themselves."

If it is argued that it will be strange teaching that has not some bias, conscious or unconscious, Sir Ernest Barker reminds us, in *The Citizen's Choice*,⁴ that the "civic incentive" is more likely to prove effective if, like the moral incentive, it can be applied to a sense of right rather than by deliberate inculcation of social duty. On the other hand, as Aldous Huxley shows in *Ends and Means*,⁵ civilisation cannot be preserved by mere reliance on dimly recognised "instinct." It is of the utmost importance to have clear minds on matters of judgment and value, more especially as the world is suffering at the present time from a universally accepted fallacy that the whole of life can be regulated by scientific principles. Men, Principal J. H. Nicholson notes, in *The Next Problem in Education*,⁶ have overlooked the fact that "the scientific intelligence is narrower than the Platonic reason, which is concerned with beauty

¹ Allen & Unwin, 1938, pp. 247.

² McGraw-Hill Book Company, New York and London, 1937, pp. 21 + 471.

³ Pamphlet No. 4, Association for Education in Citizenship, 10 Victoria Street, London, S.W. 1, no date, but is published in the form of an Address to the 25th Annual Conference of Educational Associations, 1937.

⁴ C.U.P. 1937, pp. ix + 185.

⁵ Chatto & Windus, 1937, pp. 344.

⁶ *King's College Education Society (Newcastle-upon-Tyne) Education Papers*, Richard Mayne's Press, Newcastle-upon-Tyne, 1938, pp. 64.

and goodness (i.e. with 'values') as well as with 'truth'. Science has nothing to say in the realm of values. But the crisis of our civilisation is at bottom a conflict of values."

It follows that "Education is concerned with values and value-judgments no less than with facts and with a training in methods of thought. In a free society we must educate for freedom—and also in freedom, so far as circumstances allow."

The educational methods of a democracy involve a close scrutiny of the relations of freedom and discipline.

(b) *Freedom and Discipline*

In *The Freedom We Seek*¹ Wyatt Rawson presents an anthology of extracts from speeches delivered at the seventh World Conference of the New Education Fellowship, held at Cheltenham in 1936, which, taken as a whole, record the "sense" of some 1,500 men and women of fifty nations as to the nature of freedom, which an increasing number of educationists claim for teacher and taught. As Professor Clarke writes in the "Introduction," there is noticeable "an increasing disinclination to set Freedom and Discipline against one another as opposites, and on the contrary an increasing disposition to see in Discipline, rightly interpreted, the art of maintaining and extending the necessary conditions of Freedom, both internal and external." By reviewing in turn the various activities and institutions that promote human development, and by emphasizing the part the school may play in creating a better social milieu through a reformed curriculum, a revised examination system and an improved technique in teacher-training, the book makes a valuable contribution to current educational discussion.²

In an essay entitled "The Crisis in Education," in *Church Community and State in Relation to Education*,³ Professor Clarke reverts to the alleged issue between freedom and discipline, which, as "stated abstractly," he pronounces to be largely unreal. Taking his stand on Sir Percy Nunn's classical dictum that "nothing good enters into the human world except in and through the free activities of individual men and women,"⁴ Clarke proclaims as the goal of education the production of a free individual, which shall yet result in "a type, which, while being genuinely a type—is free to develop further possibilities and so become increasingly individual—more representatively human." But an "adequate achievement of personality," the writer maintains, depends ultimately upon "the basic discipline of an established social order," and there results "the

¹ The New Education Fellowship, 29 Tavistock Square, London, W.C. 1, 1937, pp. xi + 202.

² The same topics are discussed at length in the *Second Yearbook of the John Dewey Society*, which bears the sub-title "Educational Freedom in Democracy" — Appleton-Century Company, New York and London, 1938, pp. viii + 292.

³ Allen & Unwin, 1938, pp. xii + 234.

⁴ *Data and First Principles*, p. 5.

pedagogic problem" of organising education so that there may result "the 'internalising' of the ruling sanctions and values" of the community in such a way that they become the individual's own and receive his voluntary assent and support

In other words, only the disciplined are free, but the *service* which is *perfect freedom*, as Sir Josiah Stamp indicates, in *We Live and Learn*,¹ presupposes a "scale of moral and ultimate values" which will supply an absolute synthesis, in the absence of which personality will always be in danger. The discovery of some such absolute standard is a prime necessity for democracy. Collectivist societies, as Noiman Foerster notes in *The American State University Its Relation to Democracy*,² rest, or can rest, upon a naturalistic basis, but democracy, which regards man as not only the originator but the end and meaning of society, is in its basis ultimately humanistic or religious. The same consideration underlies J. W. Oliver's statement in *Man's Chief End or the Fundamentals of Education*,³ that "a democratic State of necessity makes greater moral demands on its citizens than a dictatorship," since "the cohesion of its citizens" depends upon "a general acceptance of certain standards" and general agreement as to the really fundamental things in human life.

The values and the view of life may vary from community to community, but in the last resort they will be essentially *religious*.

(c) *The Religious Factor*

The religious factor is now present in education to a degree and in ways totally different from all past experience. This is partly because religion—Christianity at least—has become deeply conscious of its own social implications, though as Lord Eustace Percy warns us in *John Knox*⁴—a study of great importance for education—the "new creation" which religion aims at bringing into existence must not be confused with the establishment of a "polity," whether "godly" or otherwise. But the need for something capable of giving personal and social integration and which can provide a dynamic to life is also prominent. Many are convinced that this need is best met by religion which depends upon an experience both personal and communal, and which works outward from the small community to the larger. The recognition of this view of life and its bearing on education is discussed comprehensively by the contributors to *Church, State and Community in Relation to Education*,⁵ and usefully summarised by J. H. Oldham, who believes that the vital religious groups may prove "the germs of a new social consciousness."

¹ Macmillan, 1938, pp vii + 214. "Education and the Christian View of the World," p. 100.

² The University of North Carolina Press, 1937, pp. 287.

³ Church of Scotland Committee on Publications, 121 George Street, Edinburgh, 1938, pp. 32.

⁴ Hodder & Stoughton, 1937, pp. 438.

⁵ Allen & Unwin, 1938, pp. xii + 234.

If this interpretation of the socially dynamic rôle of religion is justified, the ideals of democracy would appear to find their sanction in Ultimate Reality, with the consequence that education should concern itself to a greater extent with the training of the young for social living, so that an enhanced type of citizenship may result

(d) *Education, Society and Citizenship*

Whether humanism or religion is regarded as the basis of sound citizenship, both English and American educators are agreed that the training of citizens must be approached by two stages—by arousing in the young a strong sense of social purpose, and by developing in them those critical perceptions, coupled with a willingness to take responsibility, which alone can make States the approximate means of carrying into effect the social will

Education and society are interdependent. As Maurice S. Jacks writes, in *Education as a Social Factor*¹ "If it is true that education is a function of society, it is not less true that society is a function of education." Education must constantly be related to social needs and realities, and in order to promote this end Jacks boldly suggests enrolling as teachers a percentage of those who have had active experience in some form of social service. The close relation of society and education is also emphasised by Lloyd Allen Cook in *Community Backgrounds of Education: A Textbook in Educational Sociology*,² who recommends a sociological reorientation of the teacher's training.

But education which is to keep the needs of society to the forefront has many difficulties to face. The question of bias and indoctrination will arise, and the temptation to confuse social and political issues will be perpetually present. While Socialist writers like Beryl Pryng, in her interesting analysis, *Education Capitalist and Socialist*,³ are justified in demonstrating "the Capitalist bias" often unconsciously purveyed by textbooks and teachers under existing conditions, her own plea for "the idea of communal responsibility, the necessity of active participation on the part of every individual in matters of state," reveals a new danger—that the Socialist ideal in the political sense may be confused with a general social ideal.

In *Further Papers on the Social Sciences: Their Relation in Theory and in Teaching*,⁴ Dr. Joseph Needham, Professor Morris Ginsberg, Dr. Edward Glover and Professor Godfrey Thomson, and others make plain the value of particular sciences, especially biology and psychology, for sociological study, and so help to vindicate sociology as no mere aggregate of the social sciences but as a real science explanatory of, and to some extent likely to determine, social relations. The vindication is important for education. Of particular

¹ Kegan Paul, Trench, Trubner & Company, 1937, pp. x + 203.

² McGraw-Hill Book Company, New York and London, 1938, pp. xi +

397.

³ Methuen, 1937, pp. xi + 280.

⁴ Edited by J. E. Dugdale, Le Play House Press, 1937, pp. 191.

interest is Professor Thomson's avowal that, since character-training appears liable to result in indoctrination instead of developing the appeal to Reason, it is almost necessary that "the school shall under no circumstances be allowed to train character, but shall devote itself to its task of giving knowledge, training dexterities, and enlivening the intellect"¹

The revised edition of the *Handbook of Suggestions for Teachers*,² on the other hand, proceeds on the assumption that the subjects and dexterities to which children are introduced, and especially the choice of conditions under which they live and work while in school, will inevitably train character, and that it is the main business of the school to foster desirable social attitudes and endeavour to win spontaneous assent for worthy ideals.

Nothing short of a "re-casting of the present educational system" is urged by Charles T. Smith in *APSA: A System of Education and a Faith*,³ and the writer's plea finds considerable support in the practical demonstration of his method which he was permitted to give in a London County Council elementary school between the years 1922 and 1931. His plan consists in a graded curriculum, whose dominant note is "continuity," through which the child's range of experience and connections with "the world proper" is progressively enlarged. By a kind of extension of the *Celebration* technique, familiar to those acquainted with the work of Dr. F. H. Hayward, an emotional stimulus is given to the whole. This last feature looks remarkably like an attempt to invent a secular religion, and the whole plan appears to tend, if not to overloading of the child's brain, to an over-absorption of his activities. Yet the results achieved by single-minded reformers are not to be overlooked, as is demonstrated by the work of the Parents' National Education Union, which this year (1938) celebrated its jubilee. In *PNEU: A Service to the State*,⁴ Miss Mason claimed that her characteristic method of "absolute attention" or "concentration" was of value to the community, and that good citizens could not be trained merely by introducing them to accumulations of facts: there was necessary "Information touched with Emotion."

These are innovators. An understanding of the educational thought of late classical times is aided by William M. Smal in *Quintilian on Education*.⁵ J. W. Mackail wrote of "the precepts of Quintilian" that "their main spirit is independent of the accidents of any age or country," and the present book reproduces what is of

¹ In *Psychology and the Social Sciences*, pp. 143 *et seq.*

² H. M. S. O. ("Prefatory Note" signed "January 1937"), pp. 600.

³ Watts & Company, 1937, pp. xxix + 581.

⁴ Printed version of Miss Mason's last address, delivered in 1922. *The Parents' Review*, vol. xlix, No. 5, May 1938, pp. 301 *et seq.* The May and July issues of the *Review* are largely devoted to estimates of Miss Mason's work and take the place of a jubilee commemoration volume.

⁵ Being a Translation of Selected Passages from the *Institutio Oratoria* With an Introductory Essay on Quintilian, his Environment and his Theory of Education, O. U. P. 1938 pp. xlviii + 144.

abiding significance in the *Institutio*, accompanied by an illuminating "Introduction." The latter does for students of Quintilian what Nettleship in his essay *The Theory of Education in Plato's Republic*¹ had already done for students of Plato.

The value of Classical Studies is the subject of the *Introductory Lecture*² delivered by A. E. Housman in the University College, London, in 1892, and now reprinted. The lecture is an interesting "aside" upon the influence exerted by Herbert Spencer in the closing decade of last century. Specious, and still familiar, attempts to defend the study of the classics against the utilitarian criteria of Spencer and his followers are given short shift and a defence of study on its own merits offered. "The faculty of learning is ours that we may find in its exercise that delight which arises from the unimpeded activity of any energy. Let a man acquire knowledge not for this or that external and incidental good which may chance to result from it, but for itself."

In the present distracted age, however, the position taken by John B. Johnson, in *Scholarship and Democracy*,³ that scholars are valuable because of their disinterested pursuit of truth and their reports on it, but that they must render their debt to society, more truly reflects contemporary opinion.

Both H. G. Wells, in *The Informative Content of Education*⁴—his Presidential Address to the Educational Science Section of the British Association—and Lancelot Hogben in *The Teaching of Science in the Education of the Citizen*,⁵ advocate a reorganisation of education on a sociological basis, having as its end social improvement. Such pleas—Wells' rather more than Hogben's—represent a belief in "conditioning." They lead back to indoctrination, which not all democrats repudiate, as witness the statement of T. S. Simey in *Principles of Social Administration*⁶—an able defence of democratic social methods—that "The teacher must indoctrinate his pupils with some sort of ordered conception of the world around him. The liberal theory that an individual can be taught to 'think for himself,' and to be free, provides a very insubstantial sort of education for the bulk of humanity."

These words will hardly be endorsed by teachers, who are nevertheless eager to find improved methods of teaching the young to think for themselves, and who emphasise that they should be made familiar with the main tendencies which will affect their own lives. These, as Guy Kendall notes, in *A Headmaster Reflects*,⁷ are largely

¹ Recently republished, O U P, 1937.

² C U P, 1937, pp. 42.

³ Appleton-Century Company, New York and London, 1937, pp. v +

113.

⁴ *British Association for the Advancement of Science. Report of the Annual Meeting* 1937, pp. 237-48.

⁵ National Union of Teachers, Hamilton House, Mabledon Place, W C 1, no date (sometime in 1937).

⁶ O U P, 1937, pp. vii + 180.

⁷ William Hodge & Company, 1937, pp. xx1 + 288.

economic. hence, he argues, mere "acquaintance with the laws of the physical universe" gives the young person a lop-sided preparation for life. "If it is part of his training to learn how to exercise a vote with judgment, it is difficult to see how in an age when political questions are so highly economic in character, he can dispense with the study of political economy."

This problem is met in part by Edward L. Thorndike in *The Teaching of Controversial Subjects*,¹ who suggests that the introduction of such subjects is only justifiable if it leads up to the reinforcement of important facts or principles, and that in a highly specialised world it is incumbent on the teacher to direct students to the appropriate "expert" capable of treating disputed topics in the light of full knowledge.

That the schools are in many instances keenly desirous of promoting an interest in matters of current importance and encourage their pupils, within such limits as they deem possible, to render active service to the community is shown in *The Headmistress Speaks*,² while *Experiments in Practical Training for Citizenship*³ describes various types of community service which is prepared for and rendered by boys in secondary and public schools. Much, also, of what Ronald Gurnei writes in *I Chose Teaching*⁴ about the merits of day-school education derives from the author's conviction—formed after an unusual experience of both public and day schools—that it is good that the future citizen should have first-hand contacts with the society of which he is to be an active member.

The consequences of this situation are twofold: there is an increased demand for textbooks of a new type that shall introduce pupils to a knowledge of contemporary social and political issues, and also for books giving practice in reasoning and likely to promote formation of judgment,⁵ and it is now widely recognised that the social services are so closely bound up with the successful function-

¹ *The Inglis Lecture*, 1937, Cambridge: Harvard University Press, 1937, pp. 39.

² Kegan Paul, Trench, Trubner & Company, 1937, pp. xv + 277.

³ Pamphlet No. 5, Association for Education in Citizenship, 10 Victoria Street, S.W. 1, pp. 22.

⁴ Dent, 1937, pp. vii + 312.

⁵ It is impossible to record in any detail the new types of school-book to which the sociological emphasis in education is giving rise, but two distinct tendencies may be noted—one directed towards a more competent explanation of the functioning of our own democratic system, the other towards a relatively impartial account of contemporary revolutionary movements and of recent history leading up to them. So well established a textbook as Hogan and Powell's *The Government of Great Britain and the Dominions and Colonies* (a) has appeared in a ninth and revised edition, in which education and public health are treated at greater length, while modern outlook finds expression in Kingston Derry's *British Institutions To-day* (b), which offers an excellent basis for discussion of vital topics. Such books are admirable for Sixth Form work, but there is need for still further simplified books for use with those pupils who leave school at 14 and who form the bulk

(a) University Tutorial Press, 1937, pp. xi + 308.

(b) Longmans, Green & Company, 1937, pp. viii + 191.

ing of education, that instead of the latter being regarded as one among them, they are rather to be regarded as extensions of education

(e) *Education and the Social Services*

The close connection of the Social Services with education is made plain in *A Citizen's Guide to Social Services*¹ by J. Q. Hen- of the future electorate. A Scotland's *Modern Citizenship* (a) attempts to assist such pupils to a knowledge of the functioning of the State and local government, but seeks also to awaken in them an interest in their "motives and intentions." *Modern Europe Explained* (b) and *The Making of the Modern World* (c), both by W. R. McAuliffe, are suitable for work in central schools, and illustrate the sort of factual background which ought to be provided for modern youth. At the lower end of the school we find efforts made to accustom quite young children to the procedures of good citizenship and to arouse their interest in the social services. *The Safety Chain* (d) (arranged in three "Links" for infants, juniors and seniors respectively), in spite of a difficult vocabulary, inculcates more than mere "Safety First" precautions and teaches true citizenship. An interesting series grouped about key figures in the national or municipal services (e) also helps to introduce the young citizen to his community.

The need to give practice in reasoning, so that the young may both learn how to discuss and become alert in detecting fallacies in the arguments addressed to them by partisan speakers, continues to be met by such books as J. W. Marriott's *Arguments and Discussions* (f). Here again there is need for still simpler books for use with pupils under 14.

The part played by specific subjects in the curriculum in producing men and women more successfully adjusted to social living has also occupied writers. Thus, in *The Teaching of General Science* (g) the new approach to science teaching is recommended as likely to be of use to the community, since in a predominantly scientific age it is desirable that all citizens should be made familiar with the more general scientific concepts. To some biology appears of supreme importance. In *Biology in the School* (h) H. Alan Peacock stresses "the national necessity of thinking biologically," and in *Methods in Biology* (i) Alfred C. Kinsey states as a main objective of biology teaching the equipping of the student with the "scientific method for interpreting the world." But the scientist and mathematician, in some instances at least, are also fully conscious of the limitations of their subjects. In *The Teaching of Arithmetic and Elementary Mathematics*, (j) W. L. Sumner reminds us that "In teaching mathematics, care should be taken to avoid giving the impression that there is something eternally and objectively absolute about the subject. It is better to present mathematics as a connected series of tools than as a statement of eternal values." The same writer draws attention to the use made by biology, psychology and economics of mathematical processes, such as statistics and graphs, ability to employ and interpret which is therefore desirable in all citizens.

(a) McDougall's Educational Company, no date (1938), pp. 168

(b) Blackie, 1937, pp. x + 165

(c) Blackie, 1938, pp. viii + 152

(d) Elkin Mathews & Marrot, no date (1937)

(e) *About Postmen, About Dustmen, About Firemen, About Policemen* Ginn & Company (1938)

(f) Harrap, 1937, pp. 167. *Vide post*, § VIII, p. 324

(g) *Science Masters' Association Interim Report* John Murray (1st edition, 1936, reprinted), 1938

(h) Heinemann, 1937, pp. xvi + 354

(i) Harrap, 1937, pp. x + 279

(j) Basil Blackwell, Oxford, 1938, pp. 255

¹ Allen & Unwin, 1938, pp. 344

riques. The emphasis Henriques lays on the value of voluntary agencies which supplement public services is particularly applicable to education, while his chapters on "Fitness and Employment" and "Juveniles and Employability" deal with fundamentally educational concerns. Three reports issued by PEP (Political and Economic Planning) also contain valuable material for educational discussion. *A Report on the British Social Services*¹ devotes a section to "Public Education," and a *Report on the British Health Services*² not only presents sections on "The Health of the Pre-School Child," "The School Medical Service" and "Health Education," but draws attention to the importance of securing Education in Industrial Health, closing the gap in the School Dental Service, and devoting attention to a study of normal children. In a section devoted to "Physical Education" the value of local organisers of "P.T.", and the desirability of providing training for the age-group 14-18 who are no longer in school, are discussed. For supporters of PEP the Health Services imply very largely Health Education.³

Similarly, a *Report on the British Press: A Survey of its current operations and problems, with special reference to national newspapers and their part in public affairs*,⁴ has a direct bearing on education in view of the acknowledged rôle of the Press, not only in supplying information, but also in moulding opinion and taste.

(11) Principles of Education

Although no rigid distinction can be drawn between the bases of educational thought and that presentation of it to teachers in training which is known as "Principles of Education," the latter will be found a convenient phrase by which to describe those conceptions about which there is sufficient general agreement to warrant their exposition as considerations which should determine educational practice. Such considerations will naturally depend to a greater or less extent upon current psychological opinion, but the typical writer on the subject tends, almost inevitably, to commend some system of educational philosophy. At the present time, as might be expected, books on *Principles* reflect the sociological preoccupations of their writers. Thus Professor Frank Smith and A. S. Harrison, in *Principles of Class Teaching*,⁵ give particular attention to the topic of the individual and the community. The essential task of education, they hold, is to *socialise* the child and make him a willing participant in the life of the community, on the other hand, the

¹ *A Survey of the existing Public Social Services in Great Britain* PEP, 16 Queen Anne's Gate, S.W.1, June 1937, pp. 210.

² *A Survey of the existing Health Services in Great Britain* PEP, (vide previous entry), December 1937, pp. viii (unnumbered) + 430.

³ *Vide post*, § VI, pp. 323-5 *et seq.*

⁴ PEP (as in previous reference), April 1938, pp. vii (unnumbered) + 333.

⁵ Macmillan, 1937, pp. x + 384.

community is to be distinguished carefully from its "servant," the State, and as the custodian of the child must see to it that education is conducted so as to satisfy the needs of child-nature. The book discusses most of the outstanding problems of contemporary schooling and brings them into relation with the social ideal which it proclaims.

Good citizenship is regarded by Frank W. Thomas and Albert R. Lang, in *Principles of Modern Education*,¹ as embracing all the minor objectives of education. Not only must the future citizen be given the knowledge that will fit him for life in his own period—a condition still often overlooked—but he must be given opportunity to form such habits as will be of use afterwards in the life of his community.

In *Learning and Teaching: An Introduction to Psychology and Education*,² A. G. and E. H. Hughes emphasise that education should be based upon those dominant human interests whose bases are instinctive. But educational curricula must also bear reference to sociological considerations of long standing and ever-increasing complexity, and upon which social cohesion now depends. The "overcrowded" curriculum must not be lightened by dropping subjects and activities, each of which has a recognised part to play in developing personality or producing social solidarity, but by correlating the materials of education. How psychology can aid the teacher to make existing but badly utilised curricula effective is demonstrated in several instances.

II. PSYCHOLOGY AND EDUCATIONAL EXPERIMENTS

(1) Psychology

(a) Educational Psychology

Contrary to what Miss Margaret Phillips, the author of *The Education of the Emotions*,³ appears to believe, a considerable and growing concern with the part which the emotions play in personal and social life can be detected in recent educational literature. Miss Phillips is right, however, in supposing that no one is clear how desirable emotions, or "right feeling," upon the possession of which the future of civilisation appears to depend, can be generated or educated. Her inquiry, therefore, into the existence of what she describes as "educated emotions," that is, "those which are integrated, or organised as sentiments," and her attempt to determine how they have come about, are of the utmost importance. Her method of investigation—although almost inevitable—is less happy, depending as it does on the replies of 275 collaborators whom she induced to give her "in writing a life-history of any developed 'sentiment, passion or interest' of their own, showing the stages of

¹ Harrap, no date (published 1938), pp. xv + 340.

² Longmans, Green & Company, 1937, pp. ix + 450.

³ Allen & Unwin, 1937, pp. 318.

its development, the sources from which it derived, and the nature of the satisfaction obtained from it "

Certain clear results, however, emerge, notably that " the concept of separate sentiments " is largely artificial the same emotional intensity can be directed to different objects at different periods in life But such transferences are not within the control of education The most education can do is to permit emotional free play Hence the importance of maintaining and encouraging the natural interests of young children, instead of seeking to divert them into more generally approved channels, is stressed The disastrous extent to which the present public examination system inhibits sentiment development among adolescents is also made clear

In *Growing Minds* *An Introduction to Educational Psychology*¹ H Bompas Smith deals in turn with " The Growth of the Boy's World " and " The Growth of the Boy's Mind " For him " the purpose of learning is power, not information," and he notes that " a full appreciation of the fact would lead us critically to review the matter as well as the methods of our teaching "

The same point is made, but from an unusual angle—that of a Catholic Platonist—by Jaime Castiello, in *A Humane Psychology of Education*,² who attacks the strongholds of the *Behaviourist* and *Gestalt* Psychology and the resultant educational practices The writer maintains that what is distinctive of and significant for man is his constant synthetisation, and consequently only an education which provides a humanistic synthesis can result in his fullest possible development

In *Personality and the Culture Pattern*,³ James S Plant shows how the amount of culture available and its prevailing quality result in " adjusted " and " maladjusted " behaviour Hence the general outlook of the society in which the child finds himself is of the utmost importance in personality formation For this reason the study of social psychology gains in importance In *Psychology and the Social Order*,⁴ J F Brown applies the findings of psychology to some of the major problems of our time, while in one of four sections of an interesting survey—*Psychology the Changing Outlook*⁵—Professor Francis Aveling considers some of the ways in which psychology has been called to the aid of highly specialised undertakings, among which education and industry are prominent⁶

¹ University of London Press, 1937, pp viii + 221

² Sheed & Ward, 1937, pp xxiii + 254

³ New York The Commonwealth Fund, London Humphrey Milford, 1937, pp x + 432

⁴ New York and London McGraw-Hill Publishing Company, 1937, pp xiv + 529

⁵ " Changing World Library," Watts & Company, 1937, pp vi + 152

⁶ Two further books may be mentioned—*General and Social Psychology*, by R H Thouless, a revised and enlarged edition of his well-known *Social Psychology* (1st ed 1925), University Tutorial Press, 1937, pp xii + 522, and *Modern Psychology and Education*, by Mary Sturt and Ellen C Oakden—an 8th edition—Kegan Paul, Trench, Trubner & Co, 1937, pp xi + 307

(b) Backwardness, Dullness and Mental Deficiency

In *The Fight for our National Intelligence*¹—a book which has aroused keen controversy—Raymond B. Cattell contends that the birth-rate is falling rapidly “amongst those social classes in which intelligence is relatively high,” and that “the level of the nation’s intelligence is therefore steadily falling.”

However much improved environmental conditions might assist backward or dull children, there are, the writer believes, stocks of undoubtedly inferior intelligence, and these stocks are not diminishing. Some of the most valuable parts of his book point out the danger for democracy, which depends ultimately on the common sense of the ordinary man, which a lowering of the national intelligence implies. His analysis of the causes of a falling birth-rate among families of a desirable type is also of unusual interest, and presents a direct challenge to education. Present-day culture appears to render men and women disinclined to have children. Many adults are ill-adjusted emotionally, and thus Cattell believes to be largely the fault of the schools, which in an endeavour to effect sublimation of the sex instinct at adolescence have ended by developing the “compensatory habit” to an inordinate degree. *The Education of Backward Children*² is an account by a number of H.M. Inspectors of the nature and cause of backwardness, the means for its detection, and its treatment, both preventive and remedial. Dullness and backwardness are clearly distinguished, and the proposal put forward that “observation classes” should be attached to the first year of each type of school—infants, junior and senior—to facilitate the detection and discover the cause of backwardness in particular children. What may be done for the dull child is also outlined, as well as the case for careful selection and training of teachers to meet his needs.

In *Mental Deficiency*,³ J. Duncan discusses the education of the feeble-minded. “The roots of the problem of mental deficiency,” he holds, “appear to lie in the dull and backward group,” from which the majority of the feeble-minded spring. By concentrating on awakening the intelligence of this group (as is suggested in the Board’s pamphlet) an important step would be taken towards eliminating a certain number of the latter, with whom he does not consider “work of a manipulative and repetitive type, like wool-rug making and raffia work,” yields the best results. Instead, by arousing the interest of such children he believes it possible to give them education of a more normal sort, in which self-activity would form a large part.⁴

¹ P. S. King, 1937, pp. xi + 166.

² *Board of Education Pamphlets, No. 112*, H.M.S.O. 1937, pp. 64.

³ “Changing World Library,” Watts & Company, 1938, pp. vi + 152.

⁴ *Vide also* § VI *post*, p. 325, for reference to Penrose, *A Clinical and Genetic Study of 1,280 Cases of Mental Defect*.

(11) Experimental Education and Educational Experiments

In *A Borstal Experiment in Vocational Guidance*,¹ Alec Rodger describes an experiment in which four hundred Borstal boys, at the commencement of their period of detention, were examined by a psychologist, on whose advice alternate boys were allocated to particular work, while the others were allocated work in the usual way by their housemasters. The results of the experiment showed clearly that of boys who became Grade A workers a greater percentage came from the group to which work was allocated following expert advice.

In *The Educational Guidance of the School Child*² a group of psychologists³ demonstrate the value of the Cumulative Record as the means to the better education of children, both as individuals and as partners in the social whole. The Records devised for educational guidance⁴ were employed extensively in the schools of the Wiltshire Education Committee, whose Director of Education, Keith Struckmeyer, contributes an "Introduction," in which the need for individual development and social adjustment implicit in Democracy is shown to involve not only a new technique in teaching, but a more scientific approach to problems of child life and development, based on reliable statistics. The possibilities of a "planned" but not stereotyped education, it is held, depend ultimately on the improvement of such statistics. The tendency to attribute less to natural endowment and more to attainments based on the early stages of education, whose effects can be estimated, is mentioned as a forward move, leading to further educational practice and remedial action. The making, interpretation and some general uses of the Records are described, and Dr Susan Isaacs outlines the vital part to be played by teachers of infants in securing reliable records and adapting their practice to meet the needs which the latter reveal.

*The Assessment of Psychological Qualities by Verbal Methods: A Survey of Attitude Tests, Rating Scales and Personality Questionnaires*⁵ by P. E. Vernon records an attempt to estimate the reliability of different techniques employed to assess personality. After describing a wide variety of the tests used, the writer confirms that none of these achieve the degree of objectivity and accuracy achieved by tests of abilities. This is partly a consequence of the impossibility of testing affective and conative traits by the same sort of objective "subject-matter" as serves to indicate abilities. The import-

¹ *Medical Research Council, Industrial Research Board, Report No. 78, H.M.S.O., 1937, pp. iii + 41.*

² *Evans Brothers, no date (1937), pp. 122.*

³ *Professors H. R. Hamley, R. A. C. Oliver and H. E. Field and Dr Susan Isaacs.*

⁴ *The Record Cards for use in connection with the scheme outlined may be had from Evans Brothers.*

⁵ *Medical Research Council, Industrial Health Research Board, Report No. 83, H.M.S.O. 1938, pp. vi + 124.*

ance of interpreting results in personality tests in the light of what is known of the testee's attitude to the test is made plain.

In *Diagnosis of Individual Difficulties in Arithmetic*,¹ Fred J. Schonell, inventor of the Schonell Diagnostic Arithmetic Tests, in explaining the nature of "the diagnosis and remedying of pupils' difficulties in arithmetic," notes that "progress in arithmetic is as much dependent upon emotional as upon intellectual factors." For this reason arithmetic proves a valuable means of detecting emotional instability. But environmental causes of backwardness in arithmetic, of which he gives an account, are also to be kept in mind.²

A *Conspectus of Examinations in Great Britain and Northern Ireland*,³ drawn up by Sir Philip Hartog, though not itself a contribution to experimental education, by supplying a "sketch showing the width and variety of the field covered" by examinations "at the end of the first third of the twentieth century," is an important source of information about the functioning of the system to whose improvement many modern experiments are directed. In *Examinations and the Examinee*,⁴ on the other hand, Professor C. W. Valentine criticises directly the entrance examination to secondary schools and the School Certificate Examination, and emphasises the harmful effects of both on the work of the schools.⁵ The tyranny of the University Matriculation Examination over school studies and the unreliability of the University Scholarship Examination are also discussed.

In *Superior Children*,⁶ John Edward Bentley urges the desirability of devoting attention to the requirements and special training of unusually gifted children. The writer stresses the importance for democracy of securing leaders whose special abilities have been recognised early and given opportunities for full development.

In *Contributions to Modern Education*, edited by Dr. Susan Isaacs, some recent experiments in in-school and out-of-school work are described. The experiments recorded are of great value.

In *The Children's Play Centre: Its Psychological Value and its Place in the Training of Teachers*,⁷ Miss D. E. M. Gardner describes a play centre which was run by students of a training college and proved a valuable asset to the latter by giving students direct experience of the psychological problems met with in dealing with children. In a "Foreword" Dr. Isaacs ventures "to prophesy that the play centre will, before many years pass, become a frequent

¹ Oliver & Boyd, 1937, pp. vi + 115.

² *Experiments in Homework and Physical Education*, by A. Sutcliffe and J. W. Canham, has been deferred for discussion in § VI *infra*.

³ *International Institute Examination Enquiry Committee*, Macmillan, 1937, pp. ix + 181.

⁴ The Birmingham Printers Limited, 1938, pp. 39.

⁵ *Vide The Junior School in England and Wales*, YEAR BOOK OF EDUCATION, 1937, pp. 326-92.

⁶ Allen & Unwin, 1938, pp. xxiii + 331.

⁷ Methuen, 1937, pp. xv + 143.

annexe of the training college, with a recognised status in the technique of training teachers."

Miss E. R. Boyce's book, *Play in the Infants' School*,¹ gives an account of an experiment carried out in a London infants' school, during a period of just over three years, under the direction of the writer, who allowed the children freedom for two and a half hours each day to learn by self-activity. The experiment had excellent results, both in self-realisation and in the spontaneous development of social attitudes.

In *The New Era in the Junior School*,² Miss E. B. Wair explains how by utilising the natural interests of the children and their desire for creative activity, she was able to devise projects suited to the seasons of the year and the ages of her pupils, such as gardening, the care of pets, puppetry, the holding of a market, and the making of a regional survey. All formal work was introduced as supplementary to those dominant interests.

The most widely recognised of English school experiments is that described by Mrs Phæbe E. Cusden in *The English Nursery School*.³ Following a brief historical survey of the Nursery School Movement, the writer gives a convincing account of the aims of the school. The increased financial outlay to be met by the nation were a more generous provision of nursery schools agreed to, would, she holds, be offset by a rapidly diminishing expense on health services. Moreover, the fact that girls engaged as probationer nurses and help in nursery schools may afterwards become nurses in children's hospitals may revolutionise the nursing of young children by bringing to it recruits who have learned a new psychological approach to the child.

In *Ex-Curricular Activities in Elementary Schools*⁴ Henry J. Otto and Shirley A. Harman outline the varied activities, connected with school but outside classroom attendance, in which elementary school pupils are now encouraged to engage. While there is little novel about these, their variety is striking.

In *That Dreadful School*,⁵ an account of his work at Summerhill, A. S. Neill shows the difficulties to be faced by those who in the conduct of schools attempt to give practical expression to the findings of certain schools of psychology. The need for keeping the public informed of the more generally accepted psychological theories is made evident.

School and Life,⁶ by Margaret E. Bennet and Harold C. Hand, is an attempt to help pupils to plan their lives and work within school so as to get the maximum benefit from their school-days and elimin-

¹ Methuen, 1938, pp. xiii + 188.

² Methuen, 1937, pp. vii + 136.

³ Kegan Paul, Trench, Trubner & Company, 1938, pp. xviii + 290.

⁴ Appleton-Century Company, New York and London, 1937, pp. xiv + 441.

⁵ Herbert Jenkins, 1937, pp. v + 224.

⁶ McGraw-Hill Book Company, New York and London, 1938, pp. xiii + 185.

ate waste of energy. The advice given would be invaluable to young persons later to enter commerce, as well as to those who will continue their studies to university level.

There may also be mentioned *Choosing Books for Children*,¹ in which May Lamberton Becker not only reveals an intimate acquaintance with children's predilections, but provides psychological explanations of their preferences, as where a liking for fairy tales is shown to be at bottom a desire for magic. The question of a suitable vocabulary for children's books is also treated helpfully. The first words to be read should denote objects and actions with which the child is familiar. It is not a *simplified* so much as a *familiar* vocabulary that is called for.

III HISTORY OF EDUCATION

(1) General

(a) English Scholastic Movements

An outstanding contribution to the history of education is *The Charity School Movement. A Study of Eighteenth-Century Puritanism in Action*,² by Miss M. G. Jones, which presents "a study of eighteenth-century elementary education, not as a history of educational ideas, nor as the history of administration, but as the study of a neglected aspect of social history."

The author shows how Locke's psychology provided a stimulus to educational benevolence, which, combining with Puritanism regarded as a way of life and not as a system of theology,³ made the charity school a "favourite form of benevolence." The far-reaching effects of the Charity School Movement in England, Scotland, Ireland and Wales are dealt with in detail. Among these are to be reckoned the teaching of English to the Scottish Highlanders, which, as Professor Cavenagh indicates,⁴ "helped on their process of permeating the world," and, as a result of the work of Griffith Jones, the preservation of the Welsh language. In England the Movement probably did more to prevent revolution than any of the later and much-lauded efforts of publicly provided education.

The achievements of the latter is G. A. N. Lowndes' theme in *The Silent Social Revolution. An Account of the Expansion of Public Education in England and Wales, 1895-1935*.⁵—a lively and almost startling account of the gradual and largely unnoticed change from drunkenness, domestic squalor, child-neglect, hooliganism,

¹ O U P, 1937, pp. 256.

² C U P, 1938, pp. viii + 446.

³ Vide N. Hans, *Educational Traditions in the British Commonwealth of Nations and the United States of America*, YEAR BOOK OF EDUCATION, 1938, pp. 740-914.

⁴ In a valuable review in *Adult Education*, vol. 2, No. 3, March 1938, pp. 244 et seq.

⁵ O U P, 1937, pp. xii + 274.

and a narrow outlook upon the functions of the school, prevalent at the close of last century, to the healthier and humaner conditions of the present day.¹ The writer is convinced that the major influence in effecting this alteration has been the public schools which most children attend up to the compulsory leaving age. That these have certainly had a quite incalculable effect will not be denied, though the part played by concurrent social and economic factors must not be overlooked.

In *Lex Mibi Laus School Board Memories*,² Thomas Gautrey, one of the few surviving members of the original School Board of London, has recorded intimate impressions of the problems which that body had to face throughout its thirty-three years of existence. Dr P. B. Ballard contributes an "Introduction," which, taken with his own autobiography³ and those of others once engaged in the teaching profession, supplies a convincing picture of the elementary schools of the country in the period stretching from the inception of School Boards to the point at which Lowndes' study begins.

In *A History of the Education of Young Children*,⁴ T. Raymont, although devoting attention principally to Britain and the United States, illustrates over a wide field the extent to which the ideals of those who, from Comenius to Margaret McMillan, have sought to improve the education of young children have found partial realisation in the practice of the schools. In doing so he registers a standing protest against allowing academically minded gentlemen, trained in the Public School tradition, to legislate for young children.

(b) *The Wider Historical Setting*

Hitherto Jewish education has been neglected, referred to casually by historians of education, and dealt with often without real understanding by Biblical scholars. In *The Jewish School: An Introduction to the History of Jewish Education*,⁵ Nathan Morris makes good these deficiencies by supplying "a systematic and critical study of the classical period in Jewish education." Unfortunately, this delimitation of his subject does not bring his account beyond Talmudic times, but the comparisons which he makes between rabbinical precepts and the outlook of Rousseau and recent psychologists render his book exceptionally interesting.

The Mediaeval Universities,⁶ by Nathan Schachner, is an interesting and readable survey, with a good bibliography, but the useful-

¹ In connection with this topic Miss Beatrice Edgell's article "Dickens and Child Psychology" (*The British Journal of Educational Psychology*, vol. vii, Part II, June 1937, pp. 162 et seq.) will be found of value.

² Published for the author by Link House Publications Limited, 300 Gray's Inn Road, W.C. 1, no date (1937), pp. 182.

³ *Vide post*, p. 316.

⁴ Longmans, Green & Company, 1937, pp. xi + 352.

⁵ Eyre & Spottiswoode, 1937, pp. xxvii + 277.

⁶ Allen & Unwin, 1938, pp. viii + 388.

ness of the book for serious students is greatly impaired by the omission of point to point reference to facts mentioned in the text

Irish Education A Historical Survey,¹ by James Johnston Auchmuty, while not claiming to rank as a work of original research, gives a good summarised account of a subject about which historians and comparative educationists cannot afford to be ignorant

(ii) Histories of Particular Institutions

In *The Story of the Woodard Schools*,² the Bishop of Oxford (Dr Kirke) provides "in outline some account of a remarkable endeavour, now of nearly a hundred years' standing," originated by Nathaniel Woodard, to supply sound education to children from middle-class families. The principles underlying the education which the schools of the Woodard Corporation—now sixteen in number—have endeavoured to promote is made clear, and the variety of the English public schools still further illustrated.

Uniqueness and variety are the notes struck by two additional volumes in the English Public Schools' series, which deal with *Christ's Hospital*³ and *Charterhouse*.⁴ These books are rather "studies" than "histories," and succeed to a wonderful degree in giving the atmosphere of the schools they describe. For a comparative estimate of a great London day school material is supplied in *The City of London School*⁵ by A. E. Douglas-Smith. Miss Dora H. Robertson's *Sarum Close A History of the Life and Education of the Cathedral Choristers for 700 Years*,⁶ fills a gap in English school records. No previous attempt has been made to deal with the history of a choir school. It is therefore the more to be regretted that a book obviously based on wide and careful reading should omit precise reference to facts recorded. Book lists given for particular chapters are no substitute for specific references.

Eton is discussed in two recent books. In *Changing Eton A Survey of Conditions based on the History of Eton since the Royal Commission, 1862-64*,⁷ two Eton masters devote themselves largely to an attack on post-war times, the modern boy and his parents and the expanded and less homogeneous curriculum which has resulted from changes in educational outlook in the period indicated. In *Eton Portrait*,⁸ on the other hand, Bernard Feigusson seeks neither to attack nor to defend. With the assistance of a wonderful series of photographs by L. Moholy-Nagy, he presents a mirror in which

¹ Dublin: Hodges, Figgis & Company, London: Harlap, 1937, pp. 163 + (index) vi.

² Hodder & Stoughton, 1937, pp. 224.

³ By G. A. T. Allan, Blackie, 1937, pp. x + 166.

⁴ By E. M. Jameson, Blackie, 1937, pp. xii + 196.

⁵ Oxford: Basil Blackwell, 1937, pp. xiv + 470.

⁶ Jonathan Cape, 1938, pp. 380.

⁷ By L. S. R. Byrne and E. L. Churchill. Jonathan Cape, 1937, pp. ix + 278.

⁸ John Miles, 1937, pp. xiv + 187.

the Old Etonian will see a life that he recognises, the non-Etonian a community which possesses cohesion, and a distinctive outlook, in which tolerance is a principle feature¹

(iii) Biographies and Autobiographies

Still a third account of Eton is to be found in *Antony*,² the biography of the late Viscount Knebworth,³ which in consequence of the publication of a cheap edition bids fair to be numbered among educational classics. Its sub-title, "A Record of Youth," recalls its importance as a clue to the understanding of those by whom emphasis, strong spontaneous emotion and athleticism as an expression of virility, are regarded as indications of complete living. By drawing attention to the desire of sections of English youth, not for knowledge, but for experience, especially experience demanding action, courage and self-sacrifice, the book serves at once to bridge the gap usually supposed to lie between English and Continental youth and to re-emphasise one of the chief problems of our time.

Very different in outlook are the majority of biographies and autobiographies of educational workers, which will provide invaluable raw material for future historians of education.

If Shane Leslie's *Sir Evelyn Ruggles-Brisé: A Memoir of the Founder of Borstal*⁴ reveals less than might have been hoped of the motives underlying the great experiment which he initiated, this disappointment is traceable to the disjointed character of the book, which is compiled from extracts from letters and from two diaries. Yet one phrase quoted—"Borstal is an educational training school"—will remain the charter and keynote of that institution.

Frances Mary Buss,⁵ by Miss Sara Burstall, is an account of that great woman by one who knew her intimately. In a concise and skilful manner it reveals the importance of Miss Buss's efforts for women's education against the background of mid-Victorian England, notes the part played by the clergy of the Church of England in securing higher education for women, and makes plain the soundness of Miss Buss's views on health and physical training, and on the place of housewifery and manual and practical subjects in the curriculum. The latter's desire to secure a form of education for girls which should not be determined by imitation of boys' education is usefully emphasised. Temporarily defeated by the examination system, her far-sighted wisdom may in our own day at length find its justification and fulfilment.

The Life of Winifred Mercier,⁶ by Lynda Grier, borrows distinction

¹ Reference to histories of Adult Education Settlements and Colleges will be found *post*, § VIII (*Adult Education*), p. 325-7.

² Peter Davies (1st published 1935), cheap edition, 1937, pp. xv + 368.

³ By his father, the Earl of Lytton.

⁴ John Murray, 1938, pp. xv + 226.

⁵ S.P.C.K., 1938, pp. xiii + 94.

⁶ O.U.P., 1937, pp. xxviii + 264.

from its subject, of whom Professor J. Dover Wilson writes in an "Introduction," "She had the single-mindedness and wholeheartedness which the mediæval world called holiness." Professor Dover Wilson's "Introduction" presents as a whole the important work Winifred Mercier accomplished for the training of elementary school teachers, "which was nothing less than the building of a bridge "between Oxford and the elementary school," by securing for women in training as teachers, within their particular *milieu*, the same freedom for self-development through advanced studies and corporate activities as university students had come to enjoy. Miss Grier's book outlines the story of Winifred Mercier's great battle at Leeds in the years 1913-16, and makes plain the influence, which later (1918-34), as Principal of Whitelands College, she exercised on the training of teachers.

The training of women teachers is also a main interest of *A London Home in the Nineties*¹ in which Mrs. M. Vivian Hughes continues the reminiscences begun in *A London Child of the 'Seventies*"² and *A London Girl of the Eighties*³. As "little Molly Thomas" Mrs. Hughes attended the North London Collegiate School in the days when Miss Buss was moulding its curriculum. In 1890 she was invited to initiate the training of teachers at Bedford College—a venture at the time widely regarded as ludicrous. Her accounts of what she did and believes ought to be done for teachers in training are worth a score of textbooks on "Principles of Education."

In *Terms and Vacations*,⁴ a posthumous autobiography edited by Janet Spens, Eleanor C. Lodge, one-time tutor and Vice-Principal of Lady Margaret Hall, and later Principal of Westfield College, records her life as a woman don and makes it possible for future generations to understand what a woman of her period and training "thought university education might do and ought to do for women." Her comments on what a good college presupposes in terms of the daily close contacts and intercourse of teachers and taught, which make it "something much more than a hostel," might well give pause to those who believe that the establishment of university halls of residence will provide the modern universities with such centres of social and spiritual integration as are characteristic of the older universities.

What the Men's Training College of the '80's and '90's had to offer can be judged from the parallel accounts of "Borough Road" given by Philip Boswood Ballard in *Things I Cannot Forget*,⁵ and F. H. Spencer in *An Inspector's Testament*.⁶ Differences in temperament naturally distinguish the accounts, but both writers make plain the intellectual and cultural bleakness of their student days. It was at

¹ OUP, 1937, pp. 264

² OUP, 1934

³ OUP, 1936

⁴ OUP, 1938, pp. vii + 250

⁵ University of London Press, 1937, pp. vi + 286

⁶ English Universities Press, 1938, pp. vii + pp. 9-319

the Guildhall Library on Saturday afternoons, and not as part of the college training course, for example, that Ballard had his first introduction to Plato in the pages of Jowett's translation. Both writers also are convinced of the evils of the pupil teacher system, but Dr Spencer, probably as a result of a close acquaintance with the artisan class, which makes his book peculiarly interesting, is less critical of the fact that the certificated teacher was "still the artisan." He values the "artisan" virtues and would obviously have liked to see them preserved without the social drawbacks which accompanied them. At a time when "black-coated" education is an object of attack his wishes will be more generally re-echoed than would have been the case two decades ago.

Very different is the life described by Littleton Powys in *The Joy of It*,¹ which recounts his experience first as a boy and later as Headmaster of the Preparatory School Sherborne. His thumb-nail sketch of Sunday Dessert in the time of a previous Headmaster, W. H. Blake, might have been taken from the pages of Thackeray. In *Lex*, the *Biography of Alex Devine, Founder of Clayesmore School*,² an ardent man of affairs is shown in the rôle of schoolmaster, and the strong individuality of English headmasters—and hence of their schools—again emphasised by a concrete example.

An account of fifty years' educational experience is given in *A Schoolmaster's Testament*³ by J. H. Badley, the founder of Bedales. The writer stresses the value of an environment in which the right "pressure-tendencies" are exerted upon the young "by the whole organisation of the daily life." But he holds that as the school now undertakes to prepare the young for the whole of life, home, school and the larger "world" must combine in creating the conditions likely to produce the desirable member of society.

IV. COMPARATIVE EDUCATION

(1) General

In *Unemployment in the Learned Professions*⁴ Walter M. Kotschnig has dealt in a comprehensive way, illustrated from international experience, with the problem occasioned by the overcrowding of institutions of higher learning. The inquiry which the book records originated with International Student Service, and is admittedly *social* in character. It makes clear the faulty organisation of secondary education everywhere, since increase of facilities for such education should not have resulted in crowding institutions of the higher sort, but in the production of highly skilled and cultured men and women, fitted for a variety of callings. The inability of Educational and Professional Guidance to solve the problem involved is also shown,

¹ Chapman & Hall, 1937, pp. 317.

² Longmans, Green & Company, 1937, pp. ix + 289.

³ Basil Blackwell, 1937, pp. ix + 209.

⁴ O.U.P., 1937, pp. xii + 347.

as individual aptitudes cannot always be successfully adjusted to the demand for intellectual labour, and those who are rejected for higher academic studies are not necessarily suited for other occupations. Each profession, in short, must strive to support its own weaklings. Above all, the need for increased facilities for social education is emphasised with the object of promoting a greater degree of self-realisation through participation in communal activities. Even so, it is confessed, the long-established prestige of the university man will remain an incentive to academic ambition.

Kotschnig's book, as do Keller and Viteles' study of *Vocational Guidance Throughout the World*¹ and S. H. Bailey's *International Studies in Modern Education*,² provides a striking illustration of the value of Comparative Education in helping define and elucidate modern educational problems. The last-mentioned suffers from ambiguity of title. Its theme is the place of International Studies in education at different levels, and a survey is given of "the principal types of provision which are to be found in a representative group of countries." The tendency of Modern Historical Studies to end abruptly at 1914, or even earlier, is noted, due largely to the lack of available documentation for recent history, and an uneasiness on the part of university and other teachers that the young may fall victims to a biased treatment.³ Where secondary schools are concerned, it is recorded that in Britain there is a growing feeling that independent judgment should be trained on facts supplied by the contemporary world rather than by exercises of a purely academic sort, and the prolonged "suspension of moral judgment" which has been forced upon secondary school pupils is now widely recognised as constituting a danger alike to individuals and society.

(II) Education in Particular Countries

The first of a series of educational pamphlets to be issued by the Scottish Education Department, *Administration of Public Education in Scotland*,⁴ gives a useful and concise account of the nature and historical make-up of the administrative machine, and of the powers and duties entrusted to it. The brochure should prevent comparative educationists from falling into error where Scots Education is concerned.

Free Compulsory and Secular: A Critical Estimate of Australian Education,⁵ by G. V. Portus, provides the explanations necessary to account for the Australian development of six highly centralised State systems of education, which leaves no room for local education.

¹ *Vide post*, § V, pp. 322-3.

² O.U.P., 1938, pp. xvii + 309.

³ A valuable discussion of some of the problems involved is provided by Professor W. K. Hancock in "Historical Education in the Universities and Foreign Policy," *The Citizen*, No. 7, July 1938, pp. 7 *et seq.*

⁴ H.M.S.O., 1938, pp. 20.

⁵ *University of London Institute of Education Studies and Reports*, No. 21, O.U.P., 1937, pp. 71.

authorities or for Federal educational control. The absence of LEA's results in the over-great influence of "professional expert educators, who impose their ideas upon the Australian democracy irrespective, very often, of whether those ideas have any roots in the general life and thought of the country."

In these circumstances the writer feels that the existence of the fee-paying Great Public Schools and the Private Academies for girls is justified, if only to give some members of the community a sense of responsibility for education. He is less certain that in their present examination-ridden condition these schools should stand as high as they do in public estimation.

Another book dealing with an aspect of education in Australia is *Punjarra: The Building of a Farm School*,¹ in which the wife of Kingsley Fairbridge writes of his work in Western Australia.

The University of New Zealand: A Historical Study,² according to its author, J. C. Beaglehole, is not merely a study of education, but is to be regarded as part of the general history of New Zealand, which for him represents the concluding phase in the expansion of the capitalist society of Great Britain. "the 'colonial reality' is part of the structure of 'capitalism,'" and the University—a Federal one combining six colleges—in his opinion has suffered in consequence. Instead of facilitating the diffusion of culture, the University has tended to be regarded as a preparatory and certifying school for the professions, and its cultural life and ideals have not been in advance of the community at large, but have reflected the life of the community. The unsatisfactory character of a Federal "examining" university is set out clearly, but without rancour or the pressing of impracticable claims.

Moscow in the Making,³ which originated in a visit to Moscow of Sir Ernest Simon and a group of friends, devotes a chapter,⁴ written by Lady Simon, to Education. For a detailed picture of education in the U.S.S.R. the writer refers her readers to Mrs. Beatrice King's *Changing Man*,⁵ but as her visit occurred after the fall of the pedagogues, her account of their activities and of the reason for their suppression is important.

In *Education and Revolution in Spain*⁶ Jose Catillejo, Professor of Law in the University of Madrid, and formerly General Secretary of the Central Commission for the advancement of studies and scientific research, established by the Labour Government of 1907, presents an interesting psychological portrait of the enduring Spain with which he is familiar, and describes the efforts of Francisco Giner de los Ríos to provide a graded form of education for all,

¹ O.U.P., 1937, pp. xv + 239.

² *New Zealand Council for Educational Research* and O.U.P., 1937, pp. xi + 431.

³ Longmans, Green & Company, pp. vii + 253.

⁴ Chapter III, pp. 92-142.

⁵ Gollancz, 1936.

⁶ *University of London Institute of Education Studies and Reports*, No. xii, O.U.P. 1937, pp. 26.

which should avoid the mere acquisition of bookish knowledge Giner, Castillejo writes "regarded education as a vital function of the State, but not as a monopoly to hamper or destroy private initiative, which is absolutely necessary to prevent stagnation, rigidity and dogmatism. Private schools," he considered, "should be a rich, flexible, and bold agency of reform."

(iii) Contemporary German Education

German Education To-day,¹ by Theodor Wilhelm and Gerhaid Graefe, is an account of contemporary German education published in Germany in English for the information of foreign students of education. As part of a discussion of "German Educational Ideals" the authors describe the intellectualism from which, National Socialists hold, twentieth-century German education suffered. The desire for an education which should mould character and also give free play to the distinctive racial urge of their people has led to a reconstruction of the national educational system. The *Grundschule*, acceptable because of its bringing together children of all classes, has been left practically untouched, though the brighter children may now leave after three years instead of four, but the *Deutsche Oberschule* has been selected as the desirable type of secondary school, with English as the first, and Latin as the second foreign language, and the number of *Gymnasien* has been limited in relation to the needs of the minority likely to require a full classical curriculum. The Youth Movement for both boys and girls, the *Landjahr*, by which town children who have completed the compulsory period of elementary education spend a year in work in the country, and the *Arbeitsdienst*, which compels all men at some time between the ages of 18 and 25 to give six months' labour service to the country, are all regarded, as is the two years' compulsory military service for men, as parts of the national education. In teacher-training the interesting experiment is being tried of giving all intending teachers a one-year "try-out" in a *Hochschule für Lehrerbildung*, on the basis of which it is decided whether a candidate is suited for the profession, and if so, for what particular branch of teaching. Those who are to become teachers in secondary schools pass on to study at the university. Those who are to be elementary teachers spend a second year at the *Hochschule*.

Two new schools, closely connected with National Socialist ideals, have been established—the *Adolf Hitler Schools*, which "take boys who have shown outstanding ability in the *Jugendvolk*, and have reached the age of 12," and the *Nationalpolitische Erziehungsanstalten* or "NAPOLI schools"—State Public Schools—which are "model institutions" under the direct control of the Reich Minister of Education, with no fixed curriculum, and having as their aim "the

¹ Terramare Office, Berlin, W 8, 2nd edition, 1937, pp. 45, obtainable from the Anglo-German Academic Bureau, 45 Russell Square, London, W C.

development of character and team spirit by a strenuous system of training which makes the highest demands on the physical powers of the pupil "

German emphasis on physical fitness is further made clear in a Board of Education pamphlet, *Physical Education in Germany*¹ Vitality, character, physical fitness and the ability to look after oneself in the physical sense are the recognised passports of secondary education, though, up to the time when the Report was published, no child, it is stated, had failed in the physical tests for admission. The best account in English of the "NAPOLI schools" is to be found in this pamphlet, which also provides an eminently fair discussion of the aims and tendencies of the *Hitler-Jugend*.

Two lectures on the new ideals in teacher-training as given by Graf K. von Dürckheim-Montmartin to the New Education Fellowship Conference in South Africa in 1934 are included in the Report of that conference, *Educational Adaptations in a Changing Society*²

The lectures are an important enunciation of the Nazi faith "Real freedom of personalities may differ in different countries, but true development of personality must entail sacrifice of the individual values no attention can be paid to the discontent of those who will not sacrifice their individuality for the service of the whole "

Similarly, "abstract principles" must be sacrificed to "the living whole of a community and its expression" "Abstractions, such as love, justice and truth," must yield to the exigencies of community and nation

Indoctrination by parents and teachers is justified "To allow freedom is unwise and shows weakness in our faith, degrading it to the level of some private opinion "

Tolerance is to be extended to the purely private lives of other men or to the ways and customs of other nations, but national character can only be trained by acceptance of a general standpoint, fidelity to which, it would appear, can only be ultimately tested by willingness to fight for it

In *The German Universities and National Socialism*,³ Edward Yarnall Hartshorne, of Harvard, gives a résumé of the reorganisation of university administration, the student body, and the curriculum, under National Socialist influences. In a particularly thoughtful concluding chapter he endeavours to appraise the gains and losses respectively to science and culture which have resulted from this reorganisation. He holds that

"In the last analysis the monopolisation of the liberal scientific university by the dogmatic totalitarian State has meant a renewed emphasis on the social at the expense of the intellectual values

¹ *Board of Education Educational Pamphlet No 199*, H M S O, 1937, pp 78

² Edited by E G Malherbe, Juta & Company, Capetown, 1937, pp xv + 545

³ Allen & Unwin, 1937, pp 184

Science has, in a sense, become the *political* theology of a *secular* theocracy. The recurrent European ideal of ethical universalism, with all its inherent virtues as well as vices, has for the time gained predominance over the other European ideal—the freedom of the Christian man.”

What Hauthoim writes of the extent to which professors under the Weimar régime had “lost touch with the world about them and with their students” deserves careful pondering by all university teachers. But it is also made plain that “the prescription of an official objective *Weltanschauung*, the politicisation of the classroom,” and the heresy-hunt, considered as the exposure of traitors—since in a secular theocracy heresy is treason—are inimical, not only to free scientific investigation, but to the spirit of discussion and personal instruction for which the German Seminar was justly famous. The connection of these features deserves close attention: the withdrawal of academic teachers from contact with the world which youth must face has, in Germany at least, been paid for by the dictation of that world, particularly through the mouthpiece of youth, of what in future such teachers shall be permitted to teach.¹

V VOCATIONAL EDUCATION

In *Vocational Guidance Throughout the World*² Franklin J. Keller and Morris S. Viteles, with some assistance from others, relate what is being done in a number of leading countries “to help people to find their places in the complex industrial structure of the power machine age.”

The situation in Britain is outlined in a well-balanced chapter, which, apart from its intrinsic merits, lends confidence to the authors' treatment of other countries, though the difficulty of finding “equivalents” which might be strictly compared and the fact that conditions in England and the United States are more easily dealt with are frankly admitted.

In a *Handbook of Vocational Guidance*³ C. A. Oakley and Angus Macrae—with collaborators—refer to the immaturity and constant development in the technique of vocational guidance which make it difficult to render an account of the movement as a whole. Their book is the first dealing with the psychological aspects of vocational guidance “in which a survey of occupations both from the economic and from the psychological standpoint has been attempted.” The study is thoroughly documented, gives careful reports of the authors' personal “findings,” and has an admirable bibliography.

The Report of the International Labour Conference of 1938, *Technical and Vocational Education and Apprenticeship*,⁴ indicates

¹ For a full account of vocational guidance in Germany *vide* Keller and Viteles' *Vocational Guidance Throughout the World*, to which reference is made in § V *infra*.

² Jonathan Cape, 1937, pp. xiii + 575.

³ University of London Press, 1937, pp. xviii + 337.

⁴ *Report I*, International Labour Office, Geneva, 1938, pp. viii + 225.

clearly that while in vocational education the individual's interests must be guarded, the needs of employers and the general economic and social interests of the community must also be kept firmly in mind. Attention is called to determining whether full-time vocational instruction given before employment begins is to be preferred to vocational schooling given to supplement the training of those already employed, and to other variations connected with such education and apprenticeship which result from the social and historical experiences of different countries. As a consequence, international agreement approximating to the provision of uniform regulations is recognised as hard to obtain. One of the most useful recommendations in the Report is that there should be a greater possibility of transference between vocational schools and the corresponding age-grades of secondary schools, and also between one type of vocational school and another.

*A Review of Junior Technical Schools in England*¹ is a general survey issued by the Board of Education as a supplement to their previous pamphlets, *The Junior Technical School* (1930) and *Trade Schools on the Continent* (1932). The problem of the age at which a child should enter the junior technical school—which is at present occupying the attention of the Consultative Committee—the content of the curriculum, length of school day, the position of physical training in such schools, the value of homework set by them, and the source of supply of the teaching *personnel* are passed in review. The curriculum is the subject of further discussion in *Suggestions in regard to Teaching in Junior Technical Schools*². Of particular value is the consideration given to the place of English, history and geography in these schools. The undesirability of isolating technology from the human action responsible for its creation is noted, and it is held that suitable aspects of these subjects can be selected if the necessity for assisting pupils to a wide outlook upon the general factors which have conditioned industry is kept in mind. It is not where culture started that is of significance, but to give the young a sense that history is the life-current upon which they are themselves embarked, and that culture is to be measured in terms of the individual's management of his craft.

VI PHYSICAL AND HEALTH EDUCATION

As might be expected, increased attention has been devoted to the problems of physical and health education. The Board of Education pamphlet on *Physical Education in Germany* has already been discussed for its contribution to comparative education³. In its wider aspect, as an outline of German methods of physical training it calls for careful consideration from educators in other countries. The interest of the Board in this matter is further demonstrated by

¹ *Board of Education Pamphlet, No. 111, H.M.S.O., 1937, pp. 41.*

² *Board of Education Pamphlet, No. 113, H.M.S.O., 1937, pp. 81.*

³ *Vide ante*, § IV, p. 320.

the publication of a *Handbook of Recreation and Physical Fitness for Youths and Men*¹ and a similar volume for *Girls and Women*,² and by the prominence given to the topic of "Health and Physical Training" in the recent edition of the *Handbook of Suggestions for Teachers*.³

The Scientific Basis of Physical Education,⁴ by F W W Griffin, supplies "a comprehensive and up-to-date summary of the medical and scientific knowledge at present available." The novelty of the writer's approach consists in the consideration he gives to his subject from the psychological aspect, and in his attempt "to designate physical types in the same race as a basis for determining the most suitable forms of physical education" he points the way to further research. Only by determining standards of physical fitness and by adopting such "typing" as Dr Griffin suggests can those responsible for national fitness help to improve the physical condition of those whom they instruct and supervise. Even in this sphere democracy seems to find fresh justification. "'keep fit' exercises," it is emphasised, "cannot be standardised", they must be varied to suit not only occupation and age but temperament.

The relation of temperament, as determined by the total nerve-pattern, to health is discussed in *Movement and Thought*⁵ by R E Ropei, who for ten years was Director of Physical Education for boys at Bedales. Taking movement as an index of nervous health, the writer shows how in giving education through movement the skilled master has exceptional opportunities of applying psychotherapy in a way likely to establish mental as well as bodily health.

In *Experiments in Homework and Physical Education*⁶ A Sutcliffe and J W Canham demonstrate the possibility of carrying out educational experiments in a day school with slightly under five hundred pupils by means of "equivalent classes," and describe two experiments carried out by this method, the first concerned with the advantages and disadvantages of permitting homework to be done as "Piep" at the close of the school day, the second with the rate of intellectual progress of boys who received a daily period of physical training in time "saved" from ordinary form subjects. It was found that, owing to fatigue experienced by boys at the end of the school day, a short "Piep" supplemented by a slight amount of homework gave the best results. The daily period of P.T. resulted in increase in bodily development, but the standard of attainment in the academic subjects on which less time was spent was appreciably lowered.

Three *Special Reports* of the Medical Research Council are of great value for educationists. *Hearing and Speech in Deaf Children*,⁷

¹ H M S O, 1937, pp 285

² Same publishers, 1937, pp 285

³ H M S O ("Prefatory Note" dated "January 1937"), pp 161-73

⁴ O U P, 1937, pp viii + 203

⁵ Blackie, 1938, pp xii + 162

⁶ John Murray, 1937, pp xii + 194

⁷ *Special Report Series*, No 221, H M S O, 1937, pp 137

by Dr Phyllis M T Kerridge, supplies the educational administrator with a reliable indicator of the number of sound-magnification instruments which ought to be installed in the schools in his sphere of influence. The compilers of *Epidemics in Schools. An Analysis of the Data collected during the First Five Years of a Statistical Inquiry by the School Epidemics Committee*¹ have recognised in the Public School a hitherto neglected and excellent field for investigation. The Committee record their investigations into the incidence of such frequent "complaints" as the common cold among boys and girls, day pupils and boarders, and the connection between the removal of the tonsils and the appendix respectively, and absence of tendency to succumb to epidemics. As a result of their work the present interim report has been issued and provides valuable directions for the tackling of several important practical problems.

A Clinical and Genetic Study of 1,280 Cases of Mental Defect,² by L S Penrose, records an investigation into the family history of patients in the Royal Eastern Counties Institution, Colchester, in an endeavour to increase existing knowledge of the causation of mental defect. The results of the investigation will be of great importance to research in mental deficiency in this country for many years to come.

VII TRAINING OF TEACHERS

(This subject is not the specific theme of any book recorded in the present survey, though a number of books referred to under other headings deal with it under various aspects. Thus, Guy Kendall in A Headmaster Reflects (pp 110-16) and Ronald Gurner in I Chose Teaching (pp 268-98) make plain the need of finding new means of preparing teachers for the changed tasks which confront them. The Life of Winifred Mercer and A London Woman of the Nineties³ combine historical retrospect with much sound advice, while two German accounts of teacher-training⁴ provide interesting comparative material. The First Yearbook of the John Dewey Society,⁵ which chose "The Teacher and Society" as its central topic, also provides a useful discussion on "Preparation of Teachers".)

VIII ADULT EDUCATION

In *Adult Education. A Dynamic of Democracy*⁶ Dorothy Hewitt and Kitley F Mather, although basing their conclusions upon experience of adult education in Boston, U.S.A., enunciate

¹ *Special Report Series, No 227, HMSO, 1938, pp 288*

² *Same series, No 229, HMSO, 1938, pp 159*

³ *Vide § III (iii) supra, pp 315*

⁴ *Vide § IV supra, "German Education To-day," p 319, and "Educational Adaptations in a Changing Society," p 321*

⁵ *Appleton-Century Company, New York and London, 1937, pp viii + 360, (pp 300 et seq.)*

⁶ *Appleton-Century Company, New York and London, 1937, pp vii + 193*

certain basic principles of adult education which are of world-wide application in democratic countries. That a main need for democracy is to supply a clear indication of its distinctive requirements is emphasised. Following upon which all minor autocracies, such as those of business and industry, must be superseded by co-operative procedures. The rôle of adult education is not, as many still appear to think, to bring to the under-privileged cultural opportunities they have missed, but to train citizens of sufficient intelligence and with sound emotional attitudes towards the new co-operative life, and able to provide leaders who will have, not *power over*, but *power with* their fellows. A valuable section of the book discusses the best technique to employ with adult students, and the advantages of the *Forum* (lecture *plus* questions) and the *Symposium* (the presentation of a topic from several angles by different speakers) over the academic lecture are demonstrated.

A further discussion related to the last-mentioned topic will be found in a valuable paper by H. Edmund Poole, entitled *The Teaching of Literature in the W.E.A.*,¹ which analyses the academic futility of many courses provided in this subject. The impossibility of working men and women's finding time to read more than a few of the books recommended to them, and the ineffectiveness of the lecture followed by immediate discussion, are frankly exposed. The writer urges a break with the past and an attempt to promote clear thinking and the recognition and practice of clear expression by the utilisation of simple material which will come readily to hand.²

Where the content of adult education is concerned, Professor Lancelot Hogben, in *Education for an Age of Plenty*,³ proclaims his belief that adult education ought to "frame a curriculum of factual studies relevant to the social needs of our time." Hogben's warfare is directed against the academic approach being made to what he considers ought to be dynamic subjects—subjects an adequate knowledge of which ought to increase the "possibilities of human welfare." He further proclaims his belief in education as propaganda, which he defends thus: "education which can help to salvage democracy is not exclusively a matter of information and reason. It has to stimulate the will to constructive effort."

Here the desire to maintain democracy and the recognition of the importance of developing healthy emotions are again found in combination.⁴

Beechcroft *The Story of the Birkenhead Settlement, an Experi-*

¹ *Life and Leisure Pamphlets*, No. 8, British Institute of Adult Education, 29 Tavistock Square, London, W.C., 1938, pp. 52.

² The same topic is approached from the content side by Miss Barbara Wootton in "A Plea for Constructive Teaching," *Adult Education*, vol. v, No. 2, December 1937, pp. 91 *seq.*

³ *Life and Leisure Pamphlets*, No. 7, British Institute of Adult Education, London, 1937, pp. 16.

⁴ A criticism of certain of Professor Hogben's positions by Professor L. M. Fraser and a further elucidation of the former's views are among the contents of *Adult Education*, vol. x, No. 3, March 1938, pp. 191 *et seq.*

ment in Adult Education,¹ by Horace Fleming, and *Newbattle Abbey College and What it is Accomplishing*, by John A. Mack,² belong both to the history of education and to the elucidation of the Adult Education Movement. *Education for Emancipation*³ supplies "A Brief History of the Labour College Movement" and states the case for a new education in keeping with the basic presuppositions of the latter.

For the more general company of adults who are not students in any movement, as for those who are, the reprint of Sir John Adams's *The Student's Guide*⁴ as the introductory book of a series for self-education should be of genuine value.⁵ The portion of the book which deals with logic will be found a good alternative to R. W. Jepson's *Clear Thinking* and R. H. Thouless's *Straight and Crooked Thinking* at a time when the detection of verbal fallacies is recognised as part of the equipment of the citizen.

In so far as the second volume of H. W. Household's *Rome Republic and Empire*⁶—that dealing with the Empire—is to be regarded, not as history delightfully retold, but as a contribution to educational literature, it is to the youth or adult unacquainted with Latin, but keen to learn something of Roman culture and achievement, that it will make its strongest appeal. Benjamin Farrington's *The Civilisation of Greece and Rome*⁷ performs a related service. The latter takes its place in a new and inexpensive series to which John Lewis has contributed *An Introduction to Philosophy* and Henry Collier *An Interpretation of Biology*. These books, while admirably clear for solitary reading, are equally adapted for work with study groups, as are the reprints of outstanding books on science, economics, history, sociology and art during 1937 and 1938 as *Pelican Books*⁸ at a cost of sixpence each. Such publishing ventures represent one of the biggest contributions to adult education this country has seen.

W. FRASER MITCHELL

¹ London Education Settlements Association, 1938, pp. 116.

² *Life and Leisure Pamphlets*, No. 9, British Institute of Adult Education, London, 1938, pp. 18.

³ N.C.L.C. Publishing Society, 15 South Hill Park Gardens, London, N.W.3, pp. 32.

⁴ The English Universities Press, 1938, pp. vii + 254.

⁵ Of the *Teach Yourself* series, books giving instruction in *French*, *Mathematics*, *Embroidery* and *Good English* have been published, also *The Speaker and Debater*, which may be ranked with contemporary books which train men to recognise and counter propaganda.

⁶ Dent, 1938, pp. xi + 316.

⁷ Gollancz, *The New People's Library*, 1938, pp. 95.

⁸ Penguin Books, Limited, Harmondsworth, Middlesex.

PART FIVE

A Survey of Senior and Central Schools

CHAPTER ONE

INTRODUCTORY SURVEY

IN this section we present a series of chapters on post-primary education, excluding that given in the secondary school, by teachers and administrators who have had first-hand experience of the so-called "Senior" and "Central" schools in the past ten years since the Hadow reorganisation began to be effective. Although these chapters have been written from different points of view, they reveal some striking similarities. Either directly or indirectly, they attempt to face the challenge to democracy that has come through the world's political unrest, and they indicate, in ways not envisaged in *The Education of the Adolescent*, how the schools have responded to the needs of a rapidly changing world.

The Need for a Philosophy of Education

In recent years two demands have been insistent: one for a satisfying statement of the principles of democracy and the other for a philosophy of education appropriate to a democratic State. These demands are generally made at the same time, for it is realised that the one necessarily depends upon the other. That our educational philosophers have not yet satisfied the inquirer should not be attributed to his lack of insight, but to a natural reluctance on his part to indulge in what the psychologist has called "rationalisation."

Changing Scales of Values

It is interesting to note that writers on educational principles are finding it necessary to enter into a discussion of "values." This is inevitable, for it is in the realm of values that the meaning of any change, political or educational, is to be found. We have been concerned, not so much that nations have changed their political creeds, as that they have changed their scale of values. A nation has indeed changed, if might has become the only right and the will to power the only will that is good. The call to democracy is a call for fresh allegiance to ultimate and eternal values—goodness and truth, justice and mercy. Such an allegiance must have a stabilising influence on our national character.

What is to be our criterion, whether a thing be of value or no? We set values on things for many reasons: that they are rare or that they are useful, that they give pleasure or evoke sentiment, that

they sustain life or enrich it. But is not the final test of anything of value that we are prepared to give ourselves for it? It is in the giving of life that life is found, whether it be in the pursuit of beauty, or truth, or goodness or any other value. That this principle has been fully realised in modern Germany may be seen from the following quotation from an eminent philosopher of education: "The only right of the individual is to become a person capable of bearing responsibility, of giving service, and of making sacrifices for the community." No one who has come into intimate contact with German youth in these later days will doubt their willingness to bear responsibility, to give service and to make sacrifices for the community."

If democracy is to respond to the challenge of to-day, it must hold fast to those ultimate and universal values, which have been and will remain the noblest expressions of our human spirit. The pursuit of these values is a quest which must be faced in the spirit of high adventure. That is the lesson of the present crisis. As Professor Whitehead has said: "The nation preserves its vigour so long as it harbours a real contrast between what has been and what may be, and so long as it is nerved by the vigour to adventure beyond the safeties of the past. Only the adventurous can understand the greatness of the past." Adventure, as Professor Whitehead has reminded us, is "a search for new perfections," it is a search for that which is ultimately more and more satisfying and enduring.

The New Spirit of Adventure

All who have watched with sympathetic interest the progress of the new senior and central schools will have seen this spirit of adventure asserting itself, in new methods of approach to questions, old and new, and in new standards of achievement. It is true that in some cases the schools have been slow to appreciate their newly found liberty, their freedom from the restraints of precedents and from the restrictions of examination requirement. But it is now being realised that in the new schools high adventure is possible, bringing perfections undreamed of in the old days of formalism. This spirit of adventure is to be seen in many of the school's activities. In the art class the endeavour is not to produce art according to pattern, but to express, in a truly adventurous way, an inner mood and feeling. Sometimes this work is of rare beauty, but, even when it is not, it is an honest expression of the self. Those who have seen art and craft work in our senior and central schools will not doubt its educative value, nor its power to satisfy a definite creative need. The same spirit is manifest in the realm of drama, music and rhythmic dancing. We do well to encourage these arts, not as accomplishments, but as the means whereby mental health may be secured.

Adventure in the Realm of Thought

Real adventure is also to be found in the realm of thought. The new schools encourage thought, not by exercising the mind on

artificial material, but by seeking solutions to problems of life, which have no immediate answer in the answer book. Intellectual control is secured through significant tasks rather than through the discipline of formal logic. This involves fearless thinking and the appreciation, not only of the scientific spirit, but of the scientific life. As Sir Percy Nunn has expressed it: "The prime contribution of the heroes of Science to the world's cultural wealth is not the scientific method, but the scientific life. Our business, then, is to teach the realisation of the life, not the mastery of the method." It is in the living of the truth that freedom is found. Something of this spirit has been caught in our new schools. It is being realised that of far greater value than scientific facts are integrity of mind, honesty of purpose, courage and faith. Of greater value than mere thought is faith in the efficacy of honest thinking. So we find an increasing emphasis on "science of citizenship," and "mathematics of citizenship." Arithmetic is no longer an abstract study of numbers and problems based upon them, but a practical study of rates and taxes, banking and business, work and wages.

Adventure in the Realm of Play

The new schools also provide for adventure in play. It is now being realised, as never before, that the value of play is not that it affords the child relaxation or a temporary respite from work, but that it enables him to meet stress and strain of life's varied experiences. Miss Gwen Chesters has expressed this in her very suggestive book on the play of children: "Play is the child's most valuable and variable means of maintaining his confidence and happiness, of meeting the strains and stresses he experiences and of helping forward his own development? Play is an educative instrument which helps the child to bridge that gap between the limited present and the distant reality towards which he is striving, it not only gives him pleasure, but helps him to get a trust in life."

Conclusion

It has been maintained that the spirit of adventure is now beginning to permeate the new senior and central schools. The evidence of this is not that art, or thought, or play or moral endeavour are being fostered, but that they are beginning to permeate the life of the school. Where these permeate life, there is health. Perhaps the most striking features of the new schools is that they are happy and healthy places, where healthy enthusiasms are aroused and maintained. Schools which educate children in these ways are truly educating them for democracy.

H. R. HAMLEY

CHAPTER TWO

POST-PRIMARY EDUCATION AND CITIZENSHIP

The Challenge of the Totalitarian States

THE challenge of the totalitarian to the democratic state causes the democrat to be aware of the responsibilities of citizenship and the training necessary to create the good citizen. International affairs thrust themselves with swift vigour upon the national consciousness and we are stirred to self-examination to a degree which our fathers would not have thought necessary or seemly. We, who until the last ten years had assumed responsibility with some degree of bland confidence, are now not a little self-conscious. The tempo is fast and exciting and the tune which is being called is novel and insistent. National consciousness does not appear to flourish without specific stimulus or provocation. It is a matter of history that a France was made by the aggression of the English in the Hundred Years War. England herself awoke to national consciousness in Tudor times under pressure from Spain, and Spain, again, was largely instrumental in the making of Holland. In consequence, Erasmus, living in the fifteenth and sixteenth centuries, may with some justice be considered the last great international figure, one who had no mother tongue and no national ethic. Nevertheless, until the rise of the totalitarian state national consciousness created by provocation ceased to a great extent to be subject to further provocation. As soon as differences of race, tongue and geography were accepted there developed a measure of agreement among the great civilised powers of the Western World and America as to the desirable attributes of citizenship. Differences where they existed were quantitative rather than qualitative. Many nations, especially those such as Germany and Italy which attained national consciousness late in the nineteenth century, tended politically to model themselves upon the organisation of Great Britain. The development of liberty of thought and action for the individual or the minority groups was necessarily relative, but even in Russia there was a slow groping towards western ideals which marks off pre-War Russia from the Russia which has developed since the 1917 Revolution. Thus it was agreed that diplomacy between nations should be conducted according to an accepted code. A measure of agreement was being attained upon such matters as neutral rights and duties, the protection of non-combatants, international courts of justice, respect for humane services such as the Red Cross, the inviolability of social and commercial contracts as between nations or individuals.

This does not imply the existence of a golden age, but the result of these factors was to create a concept of citizenship which was not

intense because it did not exist under the pressure of constant alarm. The good citizen was required to accept a limited reduction of personal liberty of speech, action and thought by subscription in the interests of good neighbourliness to a national code of behaviour, which in the form of law did not vary radically state by state. The acceptance with goodwill of an incompletely defined national destiny allowed considerable freedom for the individual to adhere, within reason, to any religious, social, political or economic creed and for him to substitute one belief for another. There is no call to elaborate the view that this liberty is vanishing under the new ethic of the totalitarian state. Furthermore, to-day's exception may be to-morrow's rule. We who have felt scorn, anger, exasperation and pity for those who decline to subscribe to the democratic code of behaviour are being subjected to sufficient criticism to require us to examine anew our amiably and loosely accepted beliefs in order to determine whether we and not our critics are in error.

The Consultative Committee and the teaching of Citizenship

It is evident that post-primary education could not as a slowly maturing process be consciously aware of the problems of citizenship which to-day face all who are concerned in the service of education. One cannot expect Circular 1350 of January 1925, which to an extent inaugurated the Board of Education Hadow policy, or the *Handbook of Suggestions for Teachers* of 1937, which is the latest exhaustive exposition of educational belief, to provide specific instructions in the making of a good citizen. It is characteristic of English education that, first of all, we cannot with any accuracy speak of a "system" and, secondly, that the educational policy to which the attention of teachers and administrators has been largely turned in recent years is a recommendation of a Consultative Committee of the Board of Education issued in 1926. It has as a policy no legal sanction: it required no act of Parliament and it was not issued as a Code by the Board. Indeed, the Board itself did no more than support the aspirations of its associates, the Consultative Committee, by the issue in 1928 of Educational Pamphlet No. 60 with the cautiously benevolent title of *The New Prospect in Education*. The Terms of Reference which led to the issue of *The Education of the Adolescent* (the first Hadow Report, of 1926) contain, significantly, no stronger injunctions than "to consider," "to report" and "to advise."

Nevertheless, it is desirable to ascertain with some certainty two points. First: is there sufficient specific advice in the Hadow Report and its great successor, the *Handbook of Suggestions for Teachers*, to enable educationists to give a positive direction in training in citizenship? Second: Have the profoundly disturbing events of 1938 resulted in any changed policy with regard to training in citizenship?

Is there Sufficient Specific Advice on teaching of Citizenship?

In answer to the first question, *The Education of the Adolescent* contains one index reference only to "Citizenship and Civics". The text states that "the need for instruction in civics or citizenship has long been recognised, and sporadic attempts are made from time to time to introduce specific courses on the subject somewhere in the schemes of instruction for older children. What then can be done in the matter of history teaching to meet the demand that men and women shall, as far as possible, be satisfactorily educated to meet these civic responsibilities?" We must cultivate integrity of thought and judgment, based upon accurate knowledge. "We need consider only habits of thought, together with the notions involved for in this way the child's stage of development becomes the chief consideration." In a word, we are advised to cultivate the democratic ideals of liberty and justice. It will be noted that existing teaching practice is largely endorsed since it shows "a commendable diversity." But "commendable diversity" is significant in that it offers the antithesis of the totalitarian creed and is a particular irritant to the protagonist of that creed. But totalitarian scorn could hardly have been anticipated in 1926, the year in which Germany entered the League of Nations and British diplomacy was, as a result of the Anglo-Italian entente of December 1925, successfully fitting the Italian dictator into the new European policy. The civilised world had turned with relief from the horror of 1914-18 and was prepared to give expression to new ideals in so far as these could be made acceptable to the diplomats. It was in this atmosphere that the Introduction to *The Education of the Adolescent* advocated one of the "three great ends of human life and activity, the formation and strengthening of character—individual and national character—by the placing of youth, in the hour of its growth, 'as it were in the fair meadow' of a congenial and inspiring environment."

Influence of the "Handbook of Suggestions for Teachers"

The revised *Handbook of Suggestions for Teachers* appeared in January 1937. In November 1935, the General Election endorsed a belief in the policy of the League of Nations with regard to international arbitration, but in the following month the Hoare-Laval pact struck a sinister and materialistic note by giving an indication of the inevitable interpretation of new ideological concepts. Abyssinia was formally annexed by Italy in May 1936, and two months later the revolution started in Morocco. In the very month in which the *Suggestions* appeared, the Berlin-Rome axis was proclaimed and the German Chancellor raised the colonial issue. It is not suggested that these considerations were in the minds of those who drafted the *Suggestions*. The financial embargo of 1931 had been lifted, and local education authorities, with the encouragement of the renewed 50 per cent grant upon capital

expenditure, were busily resuming Hadow reorganisation which had been seriously retarded between 1931 and 1935. The Education Act of 1936 was on the statute book. Nevertheless, it is interesting to note that in the general introduction three reasons were given for the issue of a revised edition of the *Handbook of Suggestions*. These reasons were the recent changes in modern life, the changing conceptions of education, and the increasing importance attached to individual differences among children. None of these is remote from the current problems of democratic citizenship and, indeed, the third could be taken as the answering challenge of the democratic to the totalitarian state. But the text gives no lead beyond one sentence under the first of these heads: "It must be recognised that world distances have shrunk and that the peoples of to-day are nearer to each other and their lives more closely linked together than ever before."

When we turn to the index and main text of the *Suggestions* we find three distinct references to the teaching of citizenship. "Modern Education must adapt itself to modern needs." Upon this we are agreed even to the extent of our clamouring for a specific instruction in the face of danger, but the *Suggestions* have in mind nothing more than the profitable use of leisure. The second reference introduces the dictatorial state. "Modern dictators," it says, "have given practical proof of their interest in school training, but the healthy existence of a great democracy calls for habits of self-discipline, patience, tolerance, even interest in differences of opinion, which are far more difficult to cultivate than mere subservience to an imposed pattern of behaviour, and which, therefore, demand correspondingly more intelligent and careful preparation at school." Here again we observe, as noted already, the plea for commendable diversity. The third reference, under History, in that section of the *Suggestions* which is devoted to the school curriculum, has nothing new to offer. The present methods of teaching will, it is anticipated, "achieve a real success in developing some measure of civic spirit." Finally, the "Suggestions" contain a single Appendix of some thirty pages. It is devoted to the League of Nations, a matter which was noted in one sentence only in *The Education of the Adolescent* of 1926, but which had formed the subject of a separate Educational Pamphlet in 1932.

The Influence of 1938 on Policy regarding the teaching of Citizenship

We may turn now to the second question. Has 1938 resulted in a change of educational policy with regard to training in citizenship? It is, of course, too early to allow of more than tentative comment. To consider first the League of Nations, since this was mentioned in the previous paragraph, the annual conference of the National Union of Conservative and Unionist Associations was to consider at the October meeting a resolution deploring "the action of the

League of Nations Union in making use of schools for the dissemination of propaganda which is strongly partisan." Since the international crisis of September 1938 led to the cancellation of this year's annual conference, it is impossible to judge the strength or implication of this resolution. The Central Council, however, reported that an investigation into the extent of political propaganda in schools had shown that "the results were entirely negative." Further to the matter of propaganda, the policy of the Board of Education, the National Union of Teachers and other teacher bodies, and Education Committees and their officers, continues to be opposed to any suggestions that education should be harnessed to political or other expedients. On more than one recent occasion the Board's spokesmen in Parliament have made it clear that the Board propose no interference in the choice of school textbooks. In November 1938, the question whether political consideration had not entered into a school mock election, in a school where "special attention is devoted to the teaching of citizenship," resulted in a reply from the Parliamentary Secretary to the Board of Education that it is thought "undesirable that persons publicly associated with any political party should be present at school activities of this sort, during the progress of elections."

Recent expenditure upon rearmament and Air Raid Precautions has made educationists apprehensive lest there will be in the interests of economy, as in 1931, a drastic limitation of educational development. Circular 1464 of October 1938 has made it clear that reorganisation must proceed unhindered. At a Congress held on November 14th, 1938, the President of the Board of Education, within a few days of his assumption of office, stated that "no armaments will save the British Empire unless British youth is properly equipped physically as well as mentally to face the future." His colleague, the Parliamentary Secretary, stated a week earlier at the opening of new school premises that "educational policy must be more closely related to the needs of society."

Lord De La Warr's address noted the need for physical fitness. It is in this direction that a further strong lead to educationists has been given within the last year or so. More will be said below about this aspect of post-primary education and it suffices here to note the opinions expressed in the latest volume of the Board of Education's Annual Report. "One of the outstanding features of the year 1937," says the Introduction, "was the widespread interest shown in physical education." The Physical Training and Recreation Act received the Royal Assent in July of that year, and "the principal educational publications of the year 1937 have been the companion volumes, *Recreation and Physical Fitness for Youths and Men*, and *Recreation and Physical Fitness for Girls and Women*."

Summary of Policy to Date

We may summarise this section of our inquiry by the conclusion that post-primary education has not been designed specifically to

further any particular point of view, or to combat the views of other nations. It has made no deliberate attempt by direction or propaganda to instil active citizenship. It has not even seriously attempted to define the good citizen. Recent international events of an alarmist tendency have resulted in no change of educational policy in this country beyond the reiteration of the ideals of democratic education, and the steady continuance of the removal of obstacles impeding the furtherance of those ideals. Even in the sphere of physical education the Acts and publications of 1937 constituted no novel policy, since the Board's Circular 1445, on Physical Education, issued early in 1936, had already led to considerable progress and was in itself no more than a generous expression of a programme inaugurated at a much earlier date. Good citizenship must result, then, from the removal of obstacles and the provision of an harmonious environment together with the appropriate facilities. As the Headmaster of Winchester College said at a 1938 Conference, citizenship is "an activity of the soul, or of the personality, concerned to secure certain things for our community." These things are defence, public order and justice. Justice is the securing for each member his great elementary rights and the provision of conditions necessary for the good life. The educational policy of this country is psychologically sound, so long as this country and others remain sane. It exploits and serves the processes of growth for boys and girls who themselves are growing to maturity. It does not deal in the alien media of force or structure. It offers a deeper satisfaction "than any that could spring out of a calculation of advantages."

The Purpose of Reorganisation

It is time to turn to the schools themselves. Post-primary education is in effect full-time education for children between the ages of 11 and 15 years "who are not proceeding to 'secondary schools' in the narrower sense of the word." At the age of 11+ pupils from primary schools should normally be transferred to a different school, or failing that, to a different type of education from that given to pupils under the age of 11+. The steps which have been taken since 1926 to implement the recommendations of the Hadow Report, from which this quotation is taken, require no elaboration in this present survey. Two considerations should, however, be noted.

The first is that the Hadow Report, and *The New Prospect in Education*, of 1928, stress the fact that reorganisation is designed for the normal and not specifically for the gifted child. This is an important factor in the problem of good citizenship. Bertrand Russell, in his recent social analysis called *Power*, quotes Adler as saying that "the greatest disadvantage of an authoritative education lies in the fact that it gives the child an ideal of power, and shows him the pleasures which are connected with the possession of power." "Authoritative education," com-

ments Bertrand Russell, "produces the slave type as well as the despotic type, since it leads to the feeling that the only possible relation between two human beings who co-operate is that in which one issues orders and the other obeys them." Democratic education, on the other hand, elevates the concept of citizenship by having in mind "all sorts and conditions of children, the humble and the weak as well as the mighty and the strong." These words are taken from *The New Prospect in Education*, and they conclude, "that to concentrate especially on the election of a few splendidly equipped schools for selected children," is to miss the real lesson of the Hadow Report.

An Analysis of Progress

The second consideration is that the election of new schools, the reconstruction of old buildings, the provision of new or specialised fittings, and the transfer of thousands of children at the age of 11 + years is a first step and a first step only. Post-primary education is concerned with these material changes, but as means to the end, which is a spiritual change to be carefully fostered in the happiness of the new environment. The first step, as will be seen below, has been almost completed, the second has only been hesitatingly commenced, and in certain non-teaching quarters may even have been ignored. For this reason it is wrong to look for results as soon as the new buildings are erected and the children in occupation. The expectation of quick returns has led to a certain amount of hostile criticism of Hadow reorganisation, especially from those whose criticism was anticipated in *The New Prospect in Education*. With this warning we may, nevertheless, take stock of the material extent of post-primary school reorganisation. When the Hadow Report was issued, 8.5 per cent of some two million elementary school children in England and Wales over the age of 11 years were in senior departments. The Board of Education's Annual Report for 1937, issued in June 1938, states that "approximately 54 per cent of the pupils aged 11 and over were by March 31st 1937, either in senior departments or in senior divisions." Some eighteen months have now elapsed and it is certain that the percentage is much higher. The Board's Report indicated that reorganisation had affected children in urban to rural areas in roughly the proportion of 2 to 1. It follows, therefore, that urban reorganisation is rapidly approaching completion, and the extension of the higher grant-earning period to December 31st, 1943, and the terms of the Education Act of 1936 should help to solve outstanding administrative difficulties in respect of rural schemes and schemes involving sectarian interests.

The Influence of School Premises and Staffing

It is not within the province of this survey to comment in any detail upon such matters as school premises and staffing. Neverthe-

less, it is desirable to note that none of these is without bearing upon the problems of citizenship. Material changes in themselves are of the highest importance. The Board's Educational Pamphlet, *Elementary School Buildings* (1936), offers specific and generously conceived advice upon such matters as the lighting and ventilation of schools and the provision of civilised washing and sanitary facilities. Mental well-being can rarely be dissociated from good health, and the Annual Reports of the Chief Medical Officer of the Board of Education continue to note improvements in the stature and physical fitness of the elementary school child. "For educational purposes," said the Director of the Department of Education at Oxford University, in a recent address, "mind and body should never be separated. Physical education is the necessary underpinning of the entire educational structure."

With regard to staffing, a quickening of spirit may be anticipated from the change to a new environment. In the unreorganised school the temptation to turn to past achievements was at times strong, and the teacher was all too frequently hampered by the traditions and trappings of 1902 if not of 1871. In the reorganised school he has no past and no tradition to live up to: the future is in his hands and he accepts his task with confidence and exhilaration. Refresher courses are being planned in increasing numbers by the Board of Education, local education authorities and other bodies, and the Board, for one, does not disdain to include modern citizenship as a subject worthy of a fortnight's full-time course.

Conclusion

Much is to be hoped from the future of post-primary education, but it is perhaps salutary that we can take nothing for granted. In the training for good citizenship our loss is present uncertainty, but our gain is a consciousness of purpose. The finest ideals of democratic citizenship will probably be called forth in the near future by the challenge of alien systems. If world insanity progresses, we may be forced nevertheless to abandon much which we hold dear. But this is entering the sphere of speculation, and is beyond the confines of a review of post-primary education in England.

ERIC C. WALKER,

CHAPTER THREE

POST-PRIMARY EDUCATION IN RELATION TO VOCATION, CITIZENSHIP AND LEISURE

Introduction

CONSIDERING the curricula for modern schools, the Hadow Report states that the general aim of a well-balanced educational system should be "to offer the fullest possible scope to individuality whilst keeping steadily in view the claims and needs of the society in which every individual citizen must live." This is far removed from the principles underlying the Code of 1862 when Her Majesty's Privy Council, desiring to promote "education among the children of the labouring poor," urged a curriculum restricted chiefly to the "3 R's." Although, however, a widening conception of education has freed post-primary schools from the limitations of a "3 R" curriculum, the tradition of the "3 R" instructional outlook still lingers and largely determines the technique of organisation and teaching established in them. One result of this is the assumption that the school's chief function is to instruct the child in certain skills and knowledge. This assumption and the belief that the child's ultimate responsibilities to society as an adult are to be met by the discharge of certain duties, training for which can be accomplished in schools, have led the school to regard the child as an embryonic member of society rather than as an individual being. Consequently the school, seeking to contribute to the achievement of the aim of the well-balanced educational system, takes as its starting-point "the claims and needs of society" and approaches the problem of education and vocation, citizenship and leisure, from this angle.

Perfection of Technique of Instruction

In so doing, the school has to decide both the subjects of instruction and the manner of instruction of those subjects. Contradictory as it may seem, there is much greater assurance in school with regard to the latter aspect than the former. Tradition again has played its part, and methods improved and perfected by years of practice have resulted in the attainment of an efficiency in this respect which is economical of time and effort both by teacher and taught. Having accepted, for example, that as a citizen the child will require to know something of the business of local government, or as a worker will need to be able to calculate, or in his leisure will need to be acquainted with arts and crafts, the school can be relied upon to instruct efficiently and well in those subjects. Similarly, any other subject, the worth of which the

school accepts, will be adequately and successfully taken. This perfection of the technique of instruction is the great contribution the elementary schools can make to the solution of the problem we are considering.

The School and Vocational Training

In deciding what should be taught, the school finds itself in less familiar country and is less sure of the way. Considering vocational claims, it has tried to come to terms with the principle that cultural ends should not be sacrificed for the claims of vocation, although it has been ready to recognise that the two ends are not necessarily in opposition. It is in the light of this principle that the school attempts to formulate its policy regarding the questions of bias and vocational training. In several respects the school has yet to make up its mind on these matters. It is probable that the school may safely become much more practical and realistic in outlook without becoming narrowly vocational and sacrificing its educational ideals. In this connection it is interesting to note that as a rule employers of labour do not wish for direct vocational training to be given in school. This was revealed in the Hadow Report investigations into this matter, and it is confirmed by the expressions of opinion as revealed from time to time in the *Daily Press*. If we exclude those parents whose aim it is for their children to obtain certain examination qualifications for the sake of their value in the labour market, this view would probably be found to be endorsed by parents too. Most of them know from their experience of labour conditions that the skills and techniques required in most jobs are learned only in the job itself, or that the work is routine and is learned quickly without previous training, or is learned by a routine and often wasteful process which does not require an additional preliminary waste of time in school. Parents with such experience have no desire for direct vocational training to be given in school, although they are sympathetic with, and appreciative of, attempts to make the school "practical."

Examinations in Relation to Vocational Requirements

The examination qualifications to which reference has been made are frequently of spurious value in their direct application to vocational requirements. In any case, so long as passing examinations and qualifying for certificates are the main objectives of the school, so will the true aims of education be frustrated. For this reason, it is to be deplored that the value such qualifications possess in the estimation of employers and parents has been given to them in the first place by the schools themselves. Perhaps it is the lingering legacy of the "payment-by-result" days, which, making us place high value on results which can be measured, encourages schools to adopt so readily the examination and certificate process as a method of serving vocational needs. Then, having made these

fetters for ourselves, we grow to love them. Far more difficult lies the way which will lead to the planning in the schools of "courses of instruction with the object of devising curricula calculated to bring their pupils into touch with local economic conditions" (Hadow Report), but it is along this way that vocational needs, as far as they can be met by instructional methods, are to be served. This is being achieved in countless schools as activities lead the schools to venture outside the four walls nor fear to bring the world inside and thus establish the link between school work and life. The satisfaction of vocational needs calls more and more for extension in this direction.

Training for Citizenship and Leisure

With regard to citizenship the schools following the lead given in the Hadow Report have planned courses in civics and have given a civic bias to their history courses in the hope that knowledge of the functions and history of government and institutions will found the basis of a responsible attitude to citizenship. The method has been extended, and with happy results, to include not merely instruction in such matters, but also to give actual experience in them through active participation in local public affairs, and through the functioning of school societies.

The Hadow Report, in recognising that the educative system must meet its obligations with regard to the child's ultimate opportunities for leisure, stressed the need for the schools so to equip their pupils that they should be able to share in the social life of clubs and societies. For this reason, apart from other educational reasons, instruction in the skills and techniques of games, music, dramatics, debates, crafts and so forth has earned its place in the school curriculum. As equally important, the school has also regarded its responsibility for instructing the child in the use of books, in the ways of nature, in the pursuit of arts and crafts, so that he may find delight and profit through the many and varied avenues thus opened to him. In planning such instruction, effort has been directed to the discovery and development of those techniques which fall within the limitations of the child's capacity and his environment, so that he may be encouraged both by his gaining confidence and through the opportunities he finds at hand to continue the pursuit of his interests after leaving school.

The School in Relation to Changing Conditions

Thus we see post-primary education with regard to vocation, citizenship and leisure developing along the lines which the current thought of the 1920's indicated. Since that time new elements in our national life have appeared. The Board of Education's *Handbook of Suggestions* in 1937 reflects a different world from that which we see in the Hadow Report of 1926. The new conditions

set up in a rapidly changing world have altered our views on the nature of the claims of vocation, citizenship and leisure

The years of unemployment and the subsequent changes in the industrial world have taught us that adaptability is an essential quality of the highest value to the worker. Mass production, rapidly changing fashions, various systems of intensive production, invention of machinery, all combine to make a thing of the past the time when the trained efficient artisan and craftsman could reasonably look forward to a lifetime of following his trade or plying his craft. He must be prepared to transfer his skill, even to leave his locality. Vocational training modelled on the apprenticeship system is an anachronism. We may deplore this, but we cannot choose to ignore it. Any educational system planning for future vocational needs must recognise this growing feature of modern industrial conditions.

The Influence of Radio and the Press

Concerning citizenship, it is almost alarming, as we review the political history of Europe in the last few years, to reflect upon the complacency with which a short time ago we believed that salvation was to be found in a course of civics and the like. Daily a more complex and difficult world is brought to us by the printed word and the wireless. We are no longer limited by the boundaries of locality or even country, and we are beginning to realise something of the significance of world citizenship. Education for citizenship must give practice in the technique of estimating news value. We must learn to use the wireless intelligently and to read with understanding. The functioning of listening groups in school will reveal to many children for the first time that the wireless is to be used for purposes other than providing a background of noise, and the functioning of discussion groups will promote the realisation that the broadcast word is neither final nor infallible. Newspaper reading groups in school, even if the group does little more than compare such matters as the reports of a football match in two partisan newspapers of opposing interests, will be enlightening as to the possibilities of newspaper methods. It is perhaps through the activities of such reading and listening groups that topics of the day may be discussed in school without fear of raising the bogey of politics in school. Any education for citizenship, it would appear, must inevitably bring into school many matters which at present we fear to introduce as being too controversial.

It is not, however, only in the sense that our boundary has widened that the needs of citizenship have changed in character. Deep and fundamental issues are involved. It is significant that in the 1937 "Suggestions" we have to be reminded that we are a democracy. "Believing as in this country we do, in a system of democracy, we realise that the average citizen must be a man or woman of common sense and breadth of view and that the positions of high responsibility must be open to the ablest citizens, irre-

spective of their origin." Consideration of all the issues raised in this statement points to the need for examination of our methods of organisation and control in school. Principles of democracy cannot be inculcated by dictator methods in school. The school is faced with the problem of creating the conditions which will develop in its charges the spirit which accepts the authority of society, yet remains a dynamic member of it. We must educate for society and beyond it. This presents for all schools a difficult and vital problem requiring careful thought and experiment in organisation and methods.

The Changing Conceptions of Leisure

Turning now to consider the changing conceptions of leisure, we find that, whereas the Hadow Report is concerned with the individual's interests which will make for a fuller enjoyment of leisure, the "Suggestions" concern is with the individual's ability "to select for himself some worthy and useful way of occupying his free time." Noting that this thought is associated in the "Suggestions" with recognition of the need for adaptability of the worker, it would seem that we must seek to find a meaning of "worthy and useful" with reference to the economic system. If this system is destined to produce a community whose energies are directed to mass production and consumption as it appears to be, then it is to the "worthy" occupation of leisure time that we must look for the preservation of the culture of our civilisation. This demands that our pupils must leave school imbued with a creative spirit, for that alone can inspire the use of their leisure time as a living force. This aim cannot be achieved by mere additions to a curriculum or alterations in a syllabus. The problem demands an examination of the fundamental basis of education and perhaps the evolution of entirely new school techniques.

The Value of Organised Entertainment

In the meantime, through the established methods of school practice, we may attempt the solution of the problem offered by that aspect of mass production which we meet in organised entertainment. Education should so equip the child that even as an observer or listener he will be mentally active and not merely a passive recipient of sensations when he sees the films, or watches the football match, or listens to the wireless, and so forth. The business of active watching and listening should be learned in school. There are opportunities for this in the various school functions which are an increasing feature of school life. Further opportunity is provided when the cinema and the wireless are available in school. The economic system, with its boon of restricted hours of labour and its problem of periodic unemployment, has given its special meaning also to "free time" and to "useful." For many workers the useful way will mean the way that is economically useful.

Schools will have little difficulty in so organising the pursuit of economically useful hobbies that it also serves as the means of education, for the desire to learn and do "something that is useful," which, more correctly interpreted, is "something that can be used," is the common desire of children of all abilities. Thus the school will serve a dual purpose, for we shall approach nearer the ideals of education as we educate for leisure in this "useful" sense.

Some Conclusions

Reflection upon these aspects of the changed outlook during a few years gives new force to the growing realisation that the needs of to-day are not the needs of to-morrow. Schools, therefore, have an apparently impossible task as they seek to instruct the child in the duties he will find in the future, for it is axiomatic that instruction can be given only when the nature of the instruction required is known. Fortunately for our hopes that schools may yet play their part in preparing the growing generation to meet their future responsibilities, there is abundant reason for believing that the criteria of good social relationship—of which vocation, citizenship and leisure are but particular aspects—are not to be found merely in skill, knowledge and techniques, which can be instructed, and that instruction and education are not synonymous. "The ultimate test of a good education," says the "Suggestions," must be "whether it assists in the development of citizens who desire the common good and are prepared to make sacrifices to secure and maintain it, men and women, that is, who care for all that is lovely and of good report. For the fully educated person, we should do well to remember, is one who is enlightened in his interests, impersonal in his judgments, ready in his sympathy for whatever is just and right, effective in the work he sets himself to do and willing to lend a hand to anyone who is in need of it." The essential characteristics of this criteria are predominantly emotional. The problem of education and vocation, citizenship and leisure, would appear, therefore, to coincide with the achievement of emotional health. This conception of the problem has yet to be worked out in schools. Its solution will be found in the realisation of the principle of the wholeness of life, which demands that a full life at each stage is the best preparation for later life. This can be effected in schools only as we learn to regard the child as vital for his own sake and not merely as a member of a society.

Let us now return to consider the aim of the well-balanced educational system ("to offer the fullest possible scope to individuality while keeping steadily in view the claims and needs of the society in which every individual citizen must live"). The school, in seeking to achieve this aim in accordance with the principle stated, will find its main objective in giving "the fullest possible scope to individuality" rather than in meeting the "claims and needs of society." The problem of post-primary education and

vocation, citizenship and leisure, would be thus approached from a different angle. It is possible that, with due regard to all the implications of the change of emphasis, the school may, even within the existing framework of organisation and practice, equip its pupils to meet successfully their ultimate responsibilities. It may be that those methods will be found to serve the purpose inadequately. In that case experiments in post-primary education should be directed towards the evolution of new techniques which, while preserving the best of the instructional method, are not limited by it. Such experiments may originate in schemes of organisation designed to give pupils a measure of freedom in their choice of activity and to give scope for the child to pursue his own interests.

A. GREENOUGH

CHAPTER FOUR

THE SENIOR SCHOOL AND PROGRESSIVE EDUCATION

Introduction

"THE development of personality and the insistence on individuality in education are of the foremost importance at the present time, when mass psychology and the mass mind are being, in so many parts of the world, unendingly stimulated by mass propaganda"¹

In the above words is indicated the task of those responsible for the education of the children who, in a few years, will be entrusted with the duty of safeguarding democracy, which, according to Lord Stanhope, "combines the maximum of liberty for the individual with respect for the well-being of the community" and "depends for its successful working on the education of the people"

How is this tremendous task to be successfully undertaken? The words quoted are high-sounding—what relation do they bear to the immediate problems that confront the head of a senior school, aware of the immensity of the task, and equally aware of the many difficulties involved in carrying it out?

Type of Entrants to Senior Schools

At present, the average time spent in a senior school is two and a half years—soon, happily, to be raised to three and a half. The children who enter at the age of "11 plus" are, for the most part, those who fail to pass the "Qualifying Examination" (devised for them by experts) for admission to secondary schools. The causes of this "failure" are many. In a great number of instances there is a history of ill-health, of exclusion for contagious diseases, of months in hospital, in others, the family has moved so frequently that the child has had no time to "take root" anywhere. In still other cases, especially in "growing neighbourhoods," the child, while in the junior school, has been in classes of fifty and over, where the harassed teacher has had little time to study individual difficulties and perplexities. In addition, of course, there are many "sub-normal" entrants.

One outstanding benefit of the reorganisation now becoming general throughout the country as a result of the Hadow Report is to the child frequently designated by the significant letter "C"—who finds in smaller classes, suitably graded, in different methods of approach, and in the merciful fact that he is not always at the bottom of the class, a new hope and a fresh start.

¹ From a speech by Mr. Kenneth Lindsay, Parliamentary Secretary to the Board of Education.

Let us look at the physical, mental and spiritual needs of those who enter the senior school

The Physical Side of Education

The physical side is, at the moment, well looked after in some respects. The School Medical Service, in many areas, does remarkable work. It is to be hoped, however, that with the raising of the school-leaving age an additional inspection may be added at a later age than at present. The examination of "leavers" at 12 + allows opportunity for many ills to develop before the child leaves school—ills sometimes undetected even by a vigilant teacher, and, therefore, undiagnosed and neglected. Physical training in all its branches is rightly being given an increasing importance in all schools, and the necessary facilities in the way of suitable clothing, dressing-rooms, shower-baths, etc., are being provided gradually by all enlightened authorities. The question of nutrition and the possible necessity for an extended provision of free meals, so that the children may profit by the physical training, must also receive increasing attention. The fundamental things of everyday life on the physical side call for the interest and watchful care of the teaching staff. Even bodily cleanliness, and attention to the simple rules of health, cannot be taken for granted. In this, as in many other ways, the school has to do for many children what, in a good home, would be done for them by wise parents.

The Place of Hygiene and Sex Instruction

This brings us to hygiene as a very necessary part of the curriculum, and the insertion of hygiene as an important subject should lead to serious consideration as to the desirability of sex instruction in senior schools. Experience shows that in the majority of cases the necessary knowledge is not given by parents—sometimes through shyness, to a deep-rooted feeling that there is something shameful about sex, but usually through sheer inability to convey what is to be told in appropriate words. When asked specifically to undertake the task, or, alternatively, to allow the necessary teaching to be given in school, the very great majority of parents gladly avail themselves of the opportunity of having the matter dealt with for them, fully realising its importance to their children, but thankful to hand over the task.

The matter is so tremendously important, however, that it is far better to leave the whole subject than to "rush in." The questions of who is to take it, and with whom—where, when, and with how many children at one time—have all to be answered before it is right to begin. In the case of girls, one line of approach may be through the "baby care" lessons. In every school, the nature study course may be so planned that it is of vital help in the matter.

Included possibly in physical education in its broadest sense

may be the teaching of "a proper pride in personal appearance." This is not as easy as thirty years ago, when neatness in the guise of darned woollen stockings, patched clothing and mended gloves was esteemed a virtue, and "cleanliness" of hands and face their only necessary qualification. In these days of cheap cosmetics and constant film-seeing, with consequent adolescent adoration of film stars, girls, at any rate, require wise guidance. Discretion, toleration, discussion—all play their part. Direct and downright condemnation of too vivid and too lavish lipstick and nail varnish will ensure their immediate use when school discipline ends.¹

Most schools to-day arrange, by means of jumble sales, concerts and in other ingenious ways, to raise money for school funds. It is extremely helpful if a part of this money can be used discreetly for the actual provision of shoes and clothing when this is desirable in the interests of a child's self-respect.

The Mental Side of Education

Let us now turn to the perhaps more obvious side of the school's work—catering for the mental needs of pupils.

What is the mental equipment of many pupils when they enter the senior school? Their attainments in arithmetic are meagre—the fundamentals in many cases not understood, most of them can read, though few with real enjoyment, they spell indifferently, their vocabulary is extremely limited, and, in many cases, their speech deplorable. To deal only with these matters could profitably occupy the whole of their time, and yet, in addition, we must teach history and geography, science, art and craft, needlework and domestic subjects, and must find time for music and literature. In addition, there is physical education as outlined above, and only five hours for five days a week in which to attempt to cover the whole curriculum.

Critical Examination of the Curriculum

In considering the curriculum, it will have to be admitted at the beginning that much hitherto regarded as important in the curricula of elementary schools will have to go untaught. In addition to the witness of our own experience, we have the authority of the Board's "Suggestions" that "the traditional type of school syllabus contains far more information than any normal child can master."¹

What, then, shall be our guide to the obvious selection that must be made? Shall we select a minimum number of facts in each subject and "drive them home"? That, by itself, would be a poor form of "education," though it may be said, in passing, that the learning of a "basic minimum" of facts in, for example, history and geography is by no means to be despised.

The problem of what we shall teach must be settled by reference to how we shall teach. In other words, what cannot be presented so that it can be understood must be omitted.

We must be prepared to discard, in many cases, the "traditional" method of approach to a subject, and find, instead, some "practical" means. Various methods already in use come at once to mind—but they must be regarded critically.

Is the best use being made of the time given to history, for instance, if, at the end of a term, the class has produced a marvellous model of a monastery or a castle? Maybe. Maybe not! Possibly the chief knowledge gained has been of the capacity of glue to stick together pieces of cardboard meant to be separate! Again, in geography, a book full of pictures and labels does not, in itself, prove anything more than that the owner is an ardent collector, and every teacher knows the child who will bring for the class notice board a long paragraph from the newspaper—unread!

What, then, is to be done? To find an answer to that question is the supreme task of the senior school in the next few years. The following considerations are, perhaps, among those that may usefully be borne in mind.

The Value of Practical Skill

That "the attainment of a reasonable standard of practical skill is in itself an object of importance," to quote the Hadow Report, will be readily granted. The interest shown by senior school pupils in all forms of "craft" work makes planning for this not too difficult. What is difficult, but vitally necessary, is experiment which will lead to the kind of practical work *by means of which* the child may find "abstract ideas" becoming understandable.

Relation of School to Out-of-school Experience

We must relate what is done in school to the child's out-of-school experience. The "gumption" shown by "C" children in the conduct of their own affairs is frequently in startling contrast to their vacuity in school—the child who, on Saturday, will go to the shop where he gets "value for money" will on Monday quite unconcernedly give, as answer to a "sum," 16s 6d as the price of a pound of sugar! Current price lists, for instance, give greater reality to arithmetic than the prices given in an average ten-years-old arithmetic book.

The geography lesson must take cognisance of the fact that the child's father and brothers work in local factories. In history, the "Victorian Age" has more meaning if related to family photographs still preserved by a grandmother. An Empire Day lesson can be connected with the receipt of letters from relatives in Australia.

Conversely, events of local and national importance must be related to school lessons. Children of senior school type live, otherwise, through momentous events without any awareness of them. Their own family affairs occupy children's thoughts to an extent frequently not realised, particularly, perhaps, in the case of girls. The illness of a sister or aunt, the fact that father is "on the

dole," the coming of a new baby, and similar matters take almost all their attention, and often form a heavy burden.

It would obviously be ridiculous to include "Parliamentary Reform" in the history syllabus and to ignore an actual election—whether parliamentary or municipal—for elections offer opportunity for reality in the teaching of democratic government. The opening of a new hospital affords an occasion for discussing our national belief in "voluntary" systems. A strike, whether local or national, is not to be passed over in silence. Children whose fathers are concerned in one develop a marvellous ability to express a sense of grievance—which can lead to "real" history teaching.

Stimulating Desire for Further Knowledge

Bearing in mind that our hope is that the children who leave us will want to go on learning—for, otherwise, the prospect for democracy and for the world is dismal indeed—can we introduce them to ways and means of acquiring further knowledge when it is desired? Newspapers are the textbooks when school life is over. Good newspapers frequently issue supplements of real value—but these are useless unless they can be understood. The excellent maps provided must be able to be "read"—so must graphed statistics of imports or populations—so must a genealogical table. The relative expenditure in a country's budget on armaments and education cannot be understood if "notation" has never been graphed. Even the fascination of a "Genuine Sale" fails, if "25% off" conveys no meaning! Again, the intelligent pursuit of a hobby is facilitated by reference to a gardening manual, a cookery recipe book, or the instructions issued with a paper pattern—but these are not intelligible instinctively! Such common examples may perhaps serve to indicate the directions in which the curricula may help towards "progressive education." In school the child must be taught *how* to learn—he must be provided with the opportunities and facilities for independent work, having such guidance as is necessary to ensure that he does not waste his time, but not so much that he is never dependent on his own resources. He has to be introduced to the various means of self-help—to the intelligent use of atlases and indexes, of dictionaries and directories, of encyclopædias and library catalogues. When he knows there are such things—where they are to be found and how to use them—he will be able to travel alone. When the desire to learn comes, as come it does, daily, to thousands, for various reasons—to substantiate an argument, to do a crossword puzzle, to learn something of photography, to "read up" a subject through sheer interest—the way is clear and education progresses.

The Problem of Vocabulary Building

Let us return for a moment to one of the difficulties mentioned in the catalogue of meagre mental equipment possessed by the

children who enter a senior school—somehow or other we must help our children to acquire a vocabulary, for without that they will not begin to read anything worth while, to listen intelligently or to discuss profitably. Again, the only successful approach would seem to be the “non-academic,” for the fact is only too apparent that the majority of senior school pupils have no interest at all in “words for words’ sake.” All who visit a senior school and see the happy industry of children engaged in their craft work, whatever it may be—needlework, leatherwork, bookbinding, etc.—are astounded at the quality of the work produced. The children would cheerfully spend at it hours more than can be given to this type of work—in fact, they do, coming early, staying late and carrying on with it at home. Can we use this interest, not only as at present—to cultivate accuracy of observation, artistic skill, the power of original work, pride in craftsmanship—but also to build up vocabulary round it quite definitely and systematically? Weaving, for instance, is taught in many schools. The possession of a loom and a knowledge of “how it works” is almost essential to the understanding of the inventions of the Industrial Revolution. What opportunities this affords for enlargement of vocabulary—spinning, weaving, dyeing, shuttle, loom, warp, wool, fabric, surface, pattern, design. How the new words claim acquaintance! How it correlates, to use an out-of-date word, with history, geography, needlework, etc.

All school events—concerts, plays, sports days, etc.—provide opportunities which should be definitely used for an increase of vocabulary.

A more direct approach is available through printed matter constantly to hand. Let the children read for themselves, with help, the rules of “Safety First” pamphlets, and the instructions printed on “cheap transport” cards issued to them. Let them find out the necessity for being able to grasp what is wanted in the necessary filling up of forms. Let them take just one paragraph from a newspaper, provided it deals with something of real interest to them, and try to arrive at its meaning—despite its “long words.”

The Need for Speech Training

Even an increased vocabulary, however, will not be a pass-word into the ranks of the educated unless the words are “well pronounced.” “Speech training,” from being a “fill” in the curriculum, is rapidly becoming an essential. However crowded the time-table, facilities must be found for this, and the more quickly it becomes general the better, for we have to get rid of the genuine fear of being laughed at which causes children to use what is practically a different language everywhere but in school. Apart from systematic exercises in breath control, vowel and consonant pronunciation, etc., in this, as has been suggested in other subjects, there would seem to be room for a “mechanical minimum” which

would include practice in words usually wrongly pronounced—umbrella, library, secretary, Westminster, etc., etc.—and practice also in correct alternatives to the constantly heard “I done it,” etc.

The “oral” side of English needs to be given more time, even if it is at the expense of some written work. Every kind of opportunity should be found and used, and the children encouraged to talk well, by means of time given to recitation, choral verse speaking, dramatisation, lecturettes, debates, etc.—“the more the merrier” certainly, and the better spoken.

Training for Out-of-school Interests

“Progressive” education concerns itself naturally with what is so frequently called “the right use of leisure.” Of what use is it to condemn bi-weekly visits to the local cinema if we have not introduced the child to other forms of “entertainment”? The majority of the children’s parents, mothers as well as fathers, are often so engaged in earning just enough to buy food and to keep a roof over their heads, that they have neither time, money nor desire to take their children to “places of interest.” Here is a very definite way of helping our children to acquire not only knowledge, but the means for obtaining it. By all means let us take them to the local library, to the Zoo, to picture galleries and other places of interest. Let us prepare carefully beforehand. Let us teach them what to look for and how to look—so that when they leave school they will not try to “do” a museum in one day and come away firmly resolved never again to enter such a place! But let us also tell them what interesting places there are that we have no time to visit from school—how to get there, how cheap the admission, how convenient the hours, etc. Let us introduce our children in nature study to the delights of bird watching, to the common flowers of field and garden, to the beauties of insect life. Let us show them how to read Ordnance Survey maps. Let them experience in school the delight of planning a ramble from a guide-book.

It would be wise to let our children know, before they leave school, how to get into touch with the various organisations that cater for adolescent needs—the Young Men’s (and Women’s) Christian Associations, the Youth Hostel Association, the Ramblers’ Association, etc. Many who could happily become members simply waste their time at street corners because they do not know “how to join.”

The Spiritual Side of Education

And having spoken, though inadequately, of the physical and mental needs of our children, we come to the spiritual—the most important, the least tangible and the most difficult to write about.

Truthfulness, with all its manifold implications, including the

sacredness of promises, without which the whole fabric of human relationship crumbles—how can this be taught? Can it? At least we must make the effort, at least we must show by practice and precept the importance of moral courage. Definite "Moral Teaching" is out of favour nowadays, but a thousand opportunities arise, and we dare not neglect them.

Reliability is a quality that needs to be cultivated. This is attempted in many ways—the "House" and "Prefect" systems have been introduced into many elementary schools, but however formal or informal the self-government of a school is, the children in it must, day by day, be given opportunities for learning that "A little thing is a little thing, but faithfulness in a little thing is a very big thing."

Yet another difficult task confronts us when we attempt to help our children to form unbiased judgments.

(The very opposite seems to be done, sometimes, when children are asked to give their opinions on quite inadequate evidence.)

We have to lead our children to see that "the greater the knowledge, the greater the diffidence in taking sides." *Tout comprendre est tout pardonner*. This brings us to the consideration of "Current Events" as a subject of study. It has recently been wisely said that "A board covered with cuttings and pictures from newspapers does not constitute a survey of the present-day world. Without the right explanation it only confuses or misrepresents."

The newspapers give prominence to things of impermanence and ignore those of real current interest. It is worth while considering whether we ought not to try to give our children some idea of the fact that many newspapers are biased in their comments. This could be done by reading sometimes, with them, accounts of an event of importance as recorded in two papers of known divergent views. Though not strictly relevant to this point, it may be useful to say here that we have, as part of our children's education, to make it clear to them that everything they read is not authoritative because it is in print. The study of successive reports for a week, alternately confirming and refuting what was originally stated as a fact, might help to do this.

No senior school of to-day is doing its duty unless it attempts in every possible way to further the cause of Peace—numberless ways of doing this occur unsought, but we must seek them, too. In this connection, the selection of what is taught in history lessons is of tremendous importance. The emphasis on military history happily grows less, but there is still room for the inclusion in our history books of some account of the works of men and women, of all nations, who have conquered pestilence and disease—of musicians, writers, artists—"liberators" in the true sense of the word. Some account of the constructive work of the League of Nations must be included—without controversy. But most important of all, every occasion must be used that affords practice in harmonious relationships, that results in *friendly rivalry* in

work and sport, in honest admission of failure, in admiration of skill in opponents, in suppression of self-interest for the common good

Opportunities for Christian teaching occur in State schools, and they should be definitely and conscientiously used. Hundreds of our children's parents never attend a place of worship. It is not the custom, nowadays, to send children to Sunday school, and if we neglect our Christian duty, the democracy of the near future will be entirely "heathen." In this connection, the value of a School Assembly may be stressed. "Forsake not the assembling of yourselves together" is an injunction we should take to heart, for corporate worship may well have its beginnings in the reverent prayers and hymns of morning assembly.

Before leaving the question of spiritual values, something must be said by any believer in "progressive" education about the opportunities afforded in the senior schools for the cultivation of taste. The inclusion of this among "things of the spirit" needs no further justification than the dictionary definition—"the faculty of discerning whatever constitutes beauty or excellence, discernment of what is fit and becoming." We have to *help* our children to carry out St. Paul's injunction, "Whatsoever things are true, whatsoever things are honest, whatsoever things are pure, whatsoever things are lovely, *think* on these things."

The Growing Importance of the Teacher

Success or failure in our responsible task will depend not only on the head of the school, but on each member of the staff. Indeed, the problems of organisation and the claims of clerical work frequently prevent the head of the school from having that personal contact which is of so much value. What is needed in the staff is not high academic attainment—though that is not to be despised—still less the "motherly" attitude, so called, which simply allows a "C" class to get comfortably through the days! Instead is needed a burning enthusiasm, a real love for adolescents, a real understanding of them and a real desire to help, an abundant physical energy—for the calls on it are tremendous—a willingness to give out-of-school time, and unsparing effort to make the school a real "place of training." In addition, there should be, on the staff, a trained psychologist who could deal with difficult cases—or, alternatively, through the School Medical Service, there should be easy access to a good Child Guidance Clinic where maladjusted children could receive the necessary help.

In order to help the staff to know their children well, the school should be so "well staffed" that the head can, in framing the time-table, arrange for frequent "half-classes"—not only for the sake of the subject (obviously of value in needlework, craft, etc.), but for the sake of the children. No one who has not experienced it would believe the tremendous difference in the attitude of a class—

in the whole atmosphere of a room—directly the number is twenty instead of forty. The children seem to feel instinctively that now, at last, the teacher has time for them individually. The shy blossom, the reserved speak, the timid try!

In connection with the problem of knowing our children, the keeping of an individual record throughout a child's school life is strongly to be recommended. Written up gradually, it presents no great difficulty to the class mistress and is of real help. In it are entered such matters as long absences, medical history, visits of parents, attitude of parents, home circumstances, etc. "Home circumstances" is a very important section. Experience shows that a child who is "difficult" in school is almost always the child of a home in which something is very definitely wrong.

In conclusion, the great joy of the senior school is its freedom to experiment, but that freedom, like all freedom, brings great responsibility. Those entrusted with the work need courage and vision, quiet patience and tremendous faith, but praying daily for "a right judgment in all things," they may just sometimes, in moments of high exaltation, realise how much their task is worth while.

C G WILSON.

CHAPTER FIVE

THE PLACE OF THE SENIOR AND CENTRAL SCHOOL

The Origins of the Educational System

ANY educational system is an institution of the society in which it exists. This fact both decides its motives and determines its development. From the great arc of possible human motivation any society makes a selection, and on this selection bases its cultural and political institution. For any institution to attempt to express potentialities in conflict with those selected by the society of which it is an expression is to attempt what will result in conflict and disintegration.

In searching for the sources of our educational system, it is necessary, therefore, to go back to earlier days and to endeavour to determine the motives of society, or of divisions in society, which led to the institution of education as it is to be seen to-day. It is impossible to trace in detail all the factors which have had an effect upon it. It will be enough to go back to the Middle Ages and to consider the division of the people of this country into three main groups—those who ruled and protected, those who interpreted and prayed and those who worked. The necessary virtues of those who ruled and governed were courage and social manners, and the society which called forth those virtues provided the institution in which they could be developed. The institution was the Public School system, and its purpose has varied but slightly in the intervening years.

From those who interpreted and prayed other virtues were demanded. That truth had been laid down once and for all was the main tenet of mediæval philosophy. It was essential, therefore, that there should be those trained to explain to the rest of society the meaning of the accepted doctrines. This implied an ability to read the necessary texts, to discuss points of logic or interpretation, and above all a study of the Latin language. So, side by side with the first system—that of the Public Schools—there developed a second system devised to train those who were to be the interpreters of society. Since these were the literate members of their society they gradually became responsible for all administrative duties—civil as well as religious. It should be noted that their work was interpretive and not creative.

From this beginning has developed our existing Secondary School system, with its emphasis on academic studies and its high evaluation of Latin. There have been changes, of course. The rise to power of the Middle Classes meant a demand for scientific studies, but on the whole, the existing Secondary Schools have for their function the training of those who are to interpret, and for this

reason have a predilection for studies of the academic and formal type

There remains the third group—those who worked. Their education was empirical—an apprenticeship to the work in which they were to engage. From this beginning has developed our Elementary School system.

Now, these systems were in origin separate—bearing no relationship to one another. The conditions, content, length and motives of the education given by each varied. The result was that there developed three distinct and *vertically* divided types of education in the country—the Public School system, the Secondary School system and the Elementary School system. It is true that occasional efforts were made to fuse in some way the latter two systems. But on the whole the three vertical divisions of the entire system remained effective.

The History of the Senior School

It is necessary to bear these origins in mind if a clear conception is to be obtained of the purpose of the Senior School. For since it is part of the Elementary system, this will determine its relationship to the schools of the other two systems and to a very great extent its curriculum and objectives. Having reviewed in a very summary manner the history of the Elementary School system, as part of the whole system, it is necessary to refer briefly to the history of the Senior School within the Elementary School system. There is no need to give the facts here. They are to be found set out in some detail in Chapter One of the Hadow Report on *The Education of the Adolescent*. There are features of interest in the development of the Senior Schools—features which aid in an understanding of the current conception of their purpose. It has been pointed out that the essential function of the Elementary School system was to educate “those who worked,” and that therefore the curriculum should be a severely practical one. At the same time there were always those who were working for a widening of the curriculum, and a movement from the conception of Elementary Schools as apprenticeship schools—with a purely vocational outlook. A peculiar situation developed ultimately. It became clear, on the one hand, that a satisfactory system of practical instruction would be expensive from every point of view. The equipment would be costly, more space would be needed, and the mass method of instruction in large classes taught by monitors would be impossible. On the other hand, too much approximation to the curriculum and standards of equipment of existing Secondary Schools would be in effect an attack upon the prestige of the latter, and an attempt to secure for a wide class some of the economic rewards reserved for those who attended them.

So progress was difficult. Prevented by demands for economy from expanding in one direction, and by the power of “vested interest” from moving too far in the other, the Senior School was

Elementary in name, Primary in character and mass-productive in method. Many efforts were made to widen the instruction given, in spite of all the obstacles much pioneering and experimental work was carried out. One interesting, and it may be significant thing, is the way in which some kind of school has developed as part of the Elementary School system and then been absorbed by the Secondary system. The "Higher Grade" Schools and the Pupil Teacher Centres are illustrations of this. It seems as if periodically something crystallises out of the Elementary system and is then absorbed by the Secondary one. It would almost seem as if there is a reluctance to fuse the two systems, or to admit the Senior School to equality with the Secondary School. It is interesting to speculate as to whether the future of the *Selective* Central School will not be that of the old Higher Grade Schools, i.e. inclusion in the Secondary School system.

The Intention of the Hadow Committee

The Hadow Committee intended to abolish the old vertical division between the Elementary and Secondary systems and to substitute for it a horizontal division. Leaving the Public School system as an independent one, with its own preparatory schools, the Committee visualised the remainder of the schools of the country as being divided into (a) Primary Schools for children up to 11 years of age, (b) Secondary Schools for those beyond that age. The Committee states "We desire to abolish the word 'elementary' and to alter and extend the sense of the word 'secondary'. The word 'elementary' has now become misleading, and elementary education in our present system of nomenclature, which treats central schools as part of it, is made to include much which is not elementary in any just sense of the word. We propose to substitute the word 'primary,' but to restrict the use of that term to the period of education which ends at the age of 11 or 12. To the period of education which follows it we would give the name 'secondary', and we would make this name embrace all forms of post-primary education, whether it is given in the schools now called 'secondary' or in central schools, or in senior departments of the schools now called 'elementary'. On such a scheme there will be two main kinds of education—primary and secondary, and the latter of these two kinds will fall into two main groups—that of the grammar school type and that of the type of the modern (senior) school."

This quotation states clearly the place of the new Senior Schools as intended by the members of the Consultative Committee. All post-primary education was to be secondary in kind. In its recommendations the Committee visualised four types of provision for this post-primary secondary kind of education. These were

(a) Existing "secondary" schools, with a literary or scientific curriculum and catering for pupils up to the age of 16 plus

(b) Schools of existing selective central school type, with a

"realistic" or practical trend in the last two years of the course, which is to extend to 15 plus

(c) Schools of the existing non-selective school type, which are to cater for those who do not secure admission to either (a) or (b)

(d) Senior classes, central departments and "higher tops," which cater for children of 11 plus when local conditions make the provision of (a), (b) and (c) impossible

Of the curriculum the Committee stated "A humane or liberal education is not one given through books alone, but one which brings children into contact with the larger interests of mankind. It should be the aim of schools belonging to the last three types to provide such an education by means of a curriculum containing large opportunities for practical work and closely related to living interests"

It is impossible to mistake the intentions of the Hadow Committee. The Senior and Central Schools were to be Secondary Schools in kind, and the education given in them was to be "humane and liberal" and was to be "related to living interests". In view of this, it is interesting to read in *The New Prospect in Education* (published eighteen months after the Hadow Report) that the main thesis of the Hadow Report was "the provision for every child over the age of 11 of a system of intermediate education in schools set apart and organised for that purpose". The substitution of "intermediate" for "secondary" is not without significance

Present Position of Senior and Central Schools

The above very summary account of the development of the existing Senior and Central Schools enables us to make three statements about them

(a) In view of their origin, and the function which they serve in society, the tendency will be for them to be inferior in status to existing Secondary Schools (which serve another function)

(b) For the same reason their curriculum will have a practical bias, while that of the Secondary School will be academic

(c) The fusion of the Elementary and Secondary systems visualised by the Hadow Committee has not been achieved

It is therefore desirable to consider the changes that have been effected by the recommendations of the Hadow Committee and so to arrive at a just estimate of the present position of the Senior and Central School

Now, it is unfortunate that in the minds of many people reorganisation means only the reclassifying of children. In reality there are several problems involved. There is the classification of the children in the appropriate age-groups, there is the provision of schools with adequate accommodation, equipment and facilities for the education of the respective age-groups, there is the consideration of the teaching methods appropriate to each age-group and there are questions concerning the curriculum. Far too often reorganisation

is claimed to have been effected when the children have been reclassified. To some others the provision of more or less suitable buildings constitutes the whole process. These are factors which can be measured and expressed in statistics. But this is only the first stage in the process of any scheme of educational reorganisation. It omits that part which it is so difficult to effect, but without which the first stage is but a sham. This second, and vital, stage consists in the reorganisation of methods and the consideration of problems arising from a critical examination of the existing curriculum.

Broadly speaking, it would be true to say that more children have been "reorganised" than adequate accommodation is provided for, and that while there has certainly been some change in the content of the curriculum, some of this is due to a willingness to follow the dictates of an educational fashion rather than to a critical examination of the whole of the problems involved. In the provision of suitable accommodation, adequately equipped, and also generally speaking, in matters of staffing, the Senior Schools have been more generously treated than the schools for juniors. The fully equipped Senior School, with a hall, a gymnasium, a science room, craft rooms, art room, domestic science rooms and sufficient classrooms, is becoming increasingly common. The progress made is unevenly distributed throughout the country both in quality and quantity. Under the stimulus of a higher rate of grant, much has been done. But a very great deal more still remains to be done. There are areas where there is no effective accommodation of the type visualised by the Hadow Committee, there are other areas where the provision of one "show" school hides the deficiencies of many others. It is unfortunate that there is no method of recording statistically the quality of the reorganised accommodation provided.

Changes of Attitude towards Curriculum

It is peculiarly difficult to assess the changes which have been made in the curriculum of the Senior School, and in the methods used. The problem of education is to reconcile teaching with learning. It is doubtful if the volume of effort put into teaching by teachers has had a satisfactory result, measured by the amount learned by the scholars. And there have been many reasons for this. The narrowing influences which operated upon the old Elementary School system led to a restricted curriculum, conveniently summed up as "the three R's". The urge for economy in elementary education led to large classes, and large classes meant mass methods and concentration on the acquisition of skills rather than on development through activity. In the new Senior and Central Schools we do not want "another dose of the same old stuff". Nor do we want another dose of the same old stuff skilfully disguised. There has been a large increase in the range of practical subjects included in the curriculum of the Senior and Central Schools. But merely to

change the subjects, but to continue to teach them by the same method, is not reorganisation. Perhaps the chief changes in the curriculum lie in the development of practical activities and physical training—what may be termed “the two P’s”. To substitute these “two P’s” for the old “three R’s” is to be guilty of a fraud. There is no difference in kind between the ability required to carry out a routine arithmetical drill and that required to carry out standardised techniques in wood and metal. The essence of true educational reform is the discovery of the method by which children shall learn. The task of those concerned with education is to devise an environment in which the creative activity of children can be stimulated and developed. The old method instructed the child in skills in the hope that some day he would require to use them. The new method seeks to provide him with opportunities which stimulate his activity and so bring to him a realisation of the need for skills in the service of activities.

The best of the new Modern and Senior Schools seek to provide an environment which shall fulfil two functions. It must stimulate the children and create in them a desire for that creative activity which alone makes learning desired. And it must provide the opportunities for that progressive activity which is growth. If this is remembered, the hypocrisy of merely reclassifying children and terming the process reorganisation is apparent. The best schools are devoting more and more time to this problem of the stimulating and adequate environment. It is *not* a question of boys engaging in practical activities instead of in more bookish studies. Nor does it mean that the carpenter’s bench or the fitter’s lathe is to replace the old long desk and the blackboard as symbolic of the Elementary School. It does mean active children as well as active teachers. It means that passive acceptance of facts handed out by the teacher is being replaced by the testing of knowledge gained at the bar of experience. This is characteristic of the most alert Senior Schools. But to many the real meaning of reorganisation is as yet unknown.

Disadvantages attaching to Senior and Central Schools

There are various factors which have to be taken into account in any consideration of Central and Senior Schools. In the case of the Senior Schools there is the double creaming which takes place. The best children (academically) proceed to Secondary Schools—either with scholarships or by payment, a second lot proceed to the Selective Central School, if there is one in the area. The remainder go to the ordinary Senior School. With a falling school population, and diminishing age-groups, this raises a difficult problem. For commonly the number proceeding to Secondary Schools and Selective Schools tends to be stationary and therefore to be an increasingly large proportion of the whole age-group. The result is that the line of selection tends to be drawn at a lower level, and with it there is a fall in the average (academic) ability of those

attending the non-selective school. This raises questions to which attention will have to be given. Nor are the problems involved capable of easy solution.

The shortness of the normal school life at Senior and Central Schools is another factor which influences the development of these schools. There is still the temptation for teachers, harassed by the knowledge of this shortness of school life for most of their pupils, to decide on a programme of "minimum requirements" and to teach these only. Until the school life of all children is of adequate length there will be always the temptation to overcrowd it. The effect of the Act for raising the school-leaving age (with exemptions) on these questions of curriculum and method will be discussed in a subsequent section.

The Problem of Classification of Pupils

It has been claimed frequently that one of the advantages of the development of the Senior School is that it makes possible "fine grading" within the school. By this is meant the usual device whereby a school is a "two-stream" school (A and B streams) or a "three-stream" school (A, B and C streams). Reference has already been made to the fact that there are usually one or two "skimmings" before the children enter the Senior School. It is then usual to "grade" them in two or three streams and to maintain that there is an advantage in this. The exact benefits of the fine grading are more often assumed than stated. At least it is open to question whether such a grading is socially desirable, whether it may not be advocated because the homogeneous group can be more easily taught as a group than the heterogeneous one, whether it is equally desirable in all subjects, or whether it may be disastrous in some respects. This problem is by no means solved yet, and the evolution of methods, whereby within a heterogeneous group children can learn the lessons of co-operation, tolerance, helpfulness and many other foundations of good social life, is one of the needs of the modern Senior School.

Particularly will this problem arise as reorganisation extends to rural areas. Even if the older children from a number of villages are grouped at one central village to form a "higher top" to the school there, there will not commonly be enough to permit of A and B streams. There is too ready an assumption that this is desirable. It may be an advantage from the point of view of teaching, it may not be such a stimulus to learning.

The Teaching of Citizenship

There is a recognition that these Senior and Central Schools have an important part to play in the education of the children attending them to take their places as citizens in a democratic State. An increasing amount of thought is being devoted to this matter—perhaps by way of seeking for an answer to the policy of indoctrina-

tion preached and practised by the Dictators of Europe. In this connection the Association for Education in Citizenship, both through its conferences and its publications, is giving great assistance to those interested in this vital problem. There is a difference of opinion between two schools of thought as to the best method to pursue, or perhaps a difference in emphasis. One school would by direct teaching give children knowledge of the main facts of local and national government. The other would rely on the general environment of the school to develop the correct attitudes in the future citizen. The latter point of view is expressed in the following words spoken at a conference which dealt with one aspect of this matter: "It is no use giving half an hour a week to an activity designed to show the blessings of co-operative effort, if all the rest of the activities are actuated by competition. It is no use giving freedom in some meaningless detail, if for the rest of the time efficiency is maintained by unquestioned authority. Are these qualities—zeal, industry, truth, loyalty, sense of duty—which we value, an expression of the life within, or the response to some external stimulus?" Here again is a problem which demands long and acute thought in its solution. It is not too much to say that upon its solution lies the future of English democracy.

Conclusion

Here, then, is to be found the second great purpose of the Senior and Central Schools. The first is to push forward in spite of the machinations of the "economists" with the task of providing in these schools that environment which will stimulate and foster the many and varied activities of the pupils and so result in the development of active, alert, emotionally balanced individuals. But these individuals have to live as members of society and of a society which has the task of maintaining democratic principles in a world where Dictators seem to flourish. The schools fail if they are just schools of apprenticeship for the work of life, they fail if they teach facts and fail to stimulate mental activity. They will succeed only in so far as they stimulate in the children the love of activity and provide the means for its satisfaction. The active, creative child is the true soldier of democracy.

H G STEAD

CHAPTER SIX

THE PURPOSE OF THE SENIOR AND OF THE CENTRAL SCHOOL

The Non-selective Senior School

MATERIAL for considerable thought lies behind the following quotation from the Hadow Report

"While we think that all children should enter some type of post-primary school at the age of 11+, it will be necessary to discover in each case the type most suitable to a child's abilities and interests"

This paragraph underlies the whole principle of reorganisation, and indeed can be translated as direct criticism of the "unreorganised" type of organisation which principally existed prior to 1925

To serve its useful purpose Education must of necessity be progressive—progressive in its own internal development, progressive in the increasing hope offered by administration, and the influence of these two-fold movements have led to a complete review of the educational situation

It is no far cry back to the beginnings of compulsory education, where the veriest elements of education were considered enough to meet the nation's requirements and where the cultural aspects did not exist. The gradual improvement brought about by devoted administrators and teachers led to a gradual but complete change in the attitude towards schools and school work, and with the introduction of schemes for natural progression from elementary to secondary education, by means of scholarships and "free-places," teachers gradually found themselves faced with a rapidly growing dual objective within the classroom—objectives which, while complicating the work in hand, in no way ran in parallel lines

It has been often remarked that the teacher's task is a thankless one, inasmuch as he has few means and little opportunity for measuring the success of such efforts as have been expended. Scholarships, and at a later date, "selective central schools," provided an effective if dangerous measure of success. Common justice and sense demanded that the "bright" child should receive the consideration that was his due, and gradually there became evident a general trend towards the flame of mind which permitted the bright child to "dictate" the internal organisation of the school. To even things out it became a general practice to "mix" ages, and throughout the organisation could be detected, from the lower grades to the upper, an increasingly widening age-group within the classroom, a widening which reached its greatest in the group containing most of those who were eligible for secondary education. It is not suggested that this condition was general, nor is it suggested that

the position was indefensible, but that this was the general practice is undoubted

The withdrawal, at this stage of internal development, of the increasing number of scholarship children and those chosen for the selective central school left a curiously mixed and depleted "top" of the school. This "top," of course, was concerned with an overwhelming proportion of any age-group, and it then had to be realised, that having reached this stage, the children had been forced along lines which were largely unsuited to them and to their requirements. This condition was, of course, tackled as a distinct problem, but the problem was made increasingly difficult by the acute disparity of age groupings.

Here, then, was the situation which naturally evolved—the demands of the bright child—which had to be met, became *at least* as of equal importance as the demands of the remainder of the school population. It is generally felt that in the battle of interests which ensued, the "ordinary child" lost. It was the existence of this state of affairs—where, generally, each child assimilated that part of a scheme of general education that his mental age-group permitted—which led to the criticism that the children were being prepared for the black-coated professions, while training for the wide field of industry was neglected.

But according to authoritative statements *four children out of every five* finish their education in the senior school. It is not surprising, therefore, that those in authority considered that the time had arrived when the "ordinary child" should be given the special consideration that was his due. Under the Hadow Scheme the elements of general education, which are the requirements of all, were allocated to the junior school, and the senior school became the means whereby the education of the "senior child" could be regarded as the *only* problem for consideration.

Education, in the junior school, therefore, may be regarded as the preliminary introduction to a continuous whole; education in the senior school must be regarded as that which has an end, for however regretfully we must admit the fact, it is in the senior school that the average child receives his completed education.

What then is to be offered to the senior child that can be regarded as most suitable to his abilities and interests? How can he be expected to develop his individuality along lines other than those which are regarded as best suited as a preliminary to secondary education? In what direction are the interests of these children likely to lie, and what is the probable nature of the occupation that they will immediately follow on leaving the shelter of the school?

These young people will of course form the bulk of the general working population in farms, factories, workshops, etc., where individual skill is not particularly demanded, and where, unhappily, the work is likely enough to hold little inspiration. Each area in the country will have its own particular group of localised industries to consider, but the problem, in the main, is a general one. And it is a

problem which must be solved in the senior school—a problem that is made increasingly difficult by the particular and insistent, but the frequently non-educational, demands of the employer

Life to-day is made up of toil and leisure, a leisure that is of increasing quantity—and these aspects present two problems of conflicting interests as far as the school is concerned, though each has to be regarded as of great importance. Probably, leisure time constitutes the greater problem, for it is agreed that the happy use of leisure, particularly where entertainment is not purchased, offers a greater contribution to contentment than any other consideration.

The problem of the senior school would seem to be, therefore, the training of young people who will receive a minimum compulsory post-primary education. They must be prepared for a life—frequently presenting little of interest, and offering initiative and responsibility to but few, and with this there is the vital need of offering to the pupils a background of some comfort and culture out of which may spring the desire for hobbies, for continued education, and the wish to take part in the general life of the community.

To meet the first demand there is no suggestion of the imposition of forms of vocational training. Rather is the wish behind endeavour, to create pride in personal responsibility and pride of achievement, be that achievement ever so small, to create interest in the larger ramifications of an individual task, to be concerned as an active unit in a larger integrated whole.

One of the most obvious methods of arriving at these ends is by the introduction of various forms of hand-craft and practical work, where the ability “to do” is the straightforward means of expression, for apart from the intrinsic merit of the work, there is the wide field of general culture associated with all crafts. In this form of self-expression the learner becomes an individual—working at his own pace—to his own limit and standard of ability, the very nature of the work being such that it imposes the need to plan, prepare, execute, and *complete* a job, until the finished product is there for visible recognition and assessment.

This leaning towards the cultivation of thought and expression by means of the hands in no way reduces the importance of expression by the more obvious methods—speech and writing. Speech and writing are of paramount importance, but breadth of treatment in appreciation, and accuracy of expression in essentials, are of greater service to these senior children than intensity of pursuit. English expression should be positively associated with all forms of training in the senior school, whether it be in the English lesson itself, or in the handicraft centre. And it is only by constantly keeping this objective in mind that the great difficulty of English expression can be overcome.

Mathematics can and should be utilitarian and practical in outlook, and every opportunity should be made to unburden the “tables” of unneeded data. Mathematics as an abstract study is

not wanted. What the child needs to have is a thorough knowledge of those mathematical processes which are required to help him in his progress through life.

This association of school work with the life that the children have to lead should find expression in *all* subjects on the school time-table. Their education will thus become to them a real, a living, and a helpful influence in their lives.

Interwoven into all these considerations is the question of the health of the child. It has already been found that the aggregation of senior children into one unit has shown the extent to which physical weaknesses and illness have contributed to the retarding of educational progress, and the consequent great need for careful approach to this problem. Games and physical training are of very great importance, and the realisation of the importance of daily physical training is an urgent need.

The senior school has within itself the means of attacking its problems with a singleness of purpose. The children have the direct opportunity of taking their rightful part in the promotion of the welfare and development of the school, and of developing their individuality in conditions that are in every way natural.

The Selective Central School

In the selective central schools—and there are two kinds, commercial and technical—a more clearly marked effort is made to equip the child with specific qualifications which will be of assistance to him in his after-school career. The children are chosen from classified lists, and a more advanced form of elementary general education is aimed at with a positive vocational “bias.” There is a general average of mental attainment throughout, which is sufficiently high to make it possible to impose greater demands on the scholars.

In the technical schools, apart from the introduction to the practical work in centres and workshops, endeavour is made to introduce the child to the atmosphere of the workshop, while in the commercial schools the inclusion of bookkeeping, shorthand, typewriting and general commerce all help to fit the scholar for specific duties ahead. The introduction of the child to a foreign language is general.

In areas where the selective central schools are found, a form of education has been established which has been speedily recognised and appreciated by employers and parents alike. No attempt, of course, has been made to lessen the cultural influence and scope of education, but where it is appreciated that attendance beyond the age of 14 is voluntary, there is little need to emphasise the worth and popularity of this form of organisation. The general standard of work, age for age, well approaches that reached in the secondary schools, and as a complete scheme of education in itself, offers many attractions, which are not available in secondary schools, where the

nature of the work is such that the studies undertaken are part of a continuous whole, which reaches its fulfilment in the university

Each form of organisation—the senior school and the selective central school—works under administrative difficulties, the one that the essential condition of the raising of the school-leaving age, as laid down in the Hadow Report, has not been implemented, the other that its success depends on the voluntary attendance of its pupils

It is, therefore, impossible to pass final judgment on either, for neither has had the opportunity of fulfilment, but it would seem that the stabilising of conditions by the administration would prove the need and worth of both of these forms of organisation.

R H DUCF

CHAPTER SEVEN

THE FUTURE OF THE SENIOR AND CENTRAL SCHOOL

Two Possible Destinies for Senior and Central Schools

IT has been indicated that the present position of the Senior and Central Schools is that, although they have not achieved all that might have been expected in the first burst of enthusiasm which followed the original Hadow Report, the best of them have gone far towards fulfilling the hopes with which they were launched upon their careers. Their success has been due to the vision of administrators in planning the provision of facilities on a liberal basis and to the creative attitude of teachers who have experimented with new methods.

There always comes a time when the first impetus of a new movement seems to exhaust itself. Often at this stage the idea which has infused the movement becomes encased in an institution or an organisation and so loses some of its vitality. Soon there is danger lest the maintenance of the organisation or institution becomes the chief aim, instead of the propagation of the original idea. This danger is to be found in educational institutions, as well as in others. There is a real danger lest "Hadow reorganisation" should come to mean a rigidly organised system of education, deviation from which is viewed as a sign of heresy. There are two possible futures awaiting the new Senior and Central Schools. They may become static components of a static system of education which keeps the name of Hadowism, but which loses its spirit, or they may develop dynamically by a continuously critical application of the ideas basic in Hadowism.

It would appear likely that the Senior and Central School will continue to develop, for some time at least, as a separate unit. There does not appear to be much likelihood of such schools being considered as Secondary in any real sense for some considerable time. The Selective Central School seems destined to follow the way of the older Higher Grade Schools and to be incorporated in the existing Secondary School system. So long as employers demand a certificate of some kind, and so long as the economic rewards of the possession of this certificate are of such magnitude, so long will Selective Central Schools be forced to prepare their pupils for these examinations. And this means that their aims approximate more and more closely to those of the existing Secondary Schools. They may have served a useful purpose—for in many cases they set up standards of accommodation, equipment and staffing for the Elementary Schools which exceeded anything previously known. But there is little doubt that they will be incorporated in the existing Secondary system in the course of time.

It does not appear likely that the remaining Senior Schools will become recognised as part of the Secondary School system of the country—at least for some considerable time. So long as standards of building, equipment and staffing are inferior in the Senior Schools to what they are in the Secondary Schools, any talk of the two kinds of schools being of the same nature is futile. What does the immediate future hold for the Senior School?

The most important factor in its development will be the raising of the school-leaving age to 15, subject to exemptions in certain cases, in 1939. Apart from the fact that this Act will give to many children a longer school life, there is the great value it will have of enforcing after ten years' experience of Hadowism a critical and careful evaluation of the methods and curricula of existing Senior Schools. There is reason to hope that the action of authorities over the granting of exemptions will result in these being reduced to a minimum. But be the exemptions few or be they many, they will cause the existence of a group at the top of the school which will fluctuate both in numbers and ability. The existence of such a group will raise problems which concern not only that group but the whole of the Senior School organisation. It will be a good thing to find such a critical examination forced on the schools after ten years of Hadow reorganisation.

The need for this thorough examination of current organisation and method may result in developments of great value. The tendency to over-emphasise the advantages of fine grading may be checked and the value of a more natural grouping may be discovered. It is possible, too, that the careful study of the needs of the new group of schools may arouse in us a recognition of the scantiness of the knowledge we possess of child growth in general. We are disposed to treat a child as if he were a collection of different children. If he is sick, he is a problem for the physician, if backward, a problem for the teacher, if emotionally disturbed, one for the psychiatrist, and if he is a delinquent, the Probation Officer takes him in charge. We do not always recognise that it is one and the same child involved. We don't know enough about the laws of growth of children, we don't know the kind of environment which at various ages forms the best and most stimulating one for the child. If the presence of the new age-group in the Senior Schools leads us to examine carefully the needs of this group as part of the whole age-group, then very much benefit may accrue.

Bound up with this is the question of specialisation by teachers. There is no doubt that a certain measure of specialisation is both desirable and beneficial. But there is a need for the child to be in groups where he is considered, not from the point of view of the mathematician, the scientist or the craftsman, but as a unit—as a child who is experiencing the stress of "childhood growing into man."

It is clear that most authorities are going to make the granting of exemptions under the new Act the exception and not the rule.

This will mean an appreciable lengthening of the life of the average child in the Senior School. More children will be able to complete the full three-year course. The increase in school life will perhaps remove a little of the urgency to *teach* and will permit the child to learn. The variable nature of the new group will make experiment with freer methods and less rigid time-tables essential, and the results may well affect the whole future of the Senior Schools.

Another movement which may have very widespread results is the possible development of Senior Schools as Community Centres for the areas which they serve. Many of the new housing estates have had a new Senior School erected upon them. And commonly there is no provision made for communal activities, and there is no other building available for the purpose on the estate. With its gymnasium, its hall and its craft rooms it can provide for leisure-time pursuits in the way of hobbies, the drama, music and physical training and debates. The provision of a club room and of one or two rooms for use as Committee rooms would make the Senior School into an ideal Community Centre. The school would benefit too. There would be an added interest in it on the part of the local citizens, old scholars would return to it in increasing numbers, parents would meet in it for social and leisure-time activities. The pioneering work which has been carried out in this direction in Nottingham and Cambridgeshire shows how valuable can be the development of the Senior and Central School in this direction.

The Training of Teachers

The training of the teachers for the new schools is a matter which is receiving attention, but which presents points of difficulty. The intending teacher is recruited from those who attend the existing Secondary Schools. But it is argued that the Senior School curriculum is to differ fundamentally from that of existing Secondary Schools. Can those who have been trained entirely through one curriculum make successful teachers of another? If not, what is the remedy? And if the teachers continue to be trained mainly through the Secondary School curriculum, is there not a danger lest they should at heart despise any ability other than that which leads to success in the sphere in which they have been trained? Can they genuinely embrace the new if they are trained exclusively on the old? The Training College authorities have a problem of difficulty confronting them in devising an adequate training course for the teachers in the modern Senior Schools.

Senior and Central Schools as Alternative Secondary Schools

Although there does not seem to be any immediate likelihood of the inclusion of the Senior and Central Schools in the existing

Secondary School system, there does seem to be great possibilities of the development of such schools as a system of alternative Secondary Schools. The lengthening of the school life, the development of communal activities, the consideration of method and curricula will all combine to make these schools full of vitality. It may well be that then the old division between Elementary and Secondary will vanish in a new system of post-primary education in which existing Secondary Schools and existing Senior and Central Schools shall find a place as partners equal in status but differing in their peculiar qualities.

For it must always be remembered that Hadowism is not, nor can it ever be, the final word in educational organisation and administration. Neither is it necessary for anyone to accept all the findings of the Hadow Committee. To turn Hadowism into a dogmatic faith, with articles of belief, and with slogans to support it, would be to destroy all that was and is of value in it. To be prepared to criticise Hadowism is not to proclaim it a failure. All dogma needs criticism, and should receive it from the democratically minded person. Educational dogma cannot be exempt from this general criticism. Again, circumstances vary, children vary, innumerable factors vary, and because of these variations it is impossible to apply the basic principles of Hadowism in the same way under different circumstances. For Senior Schools the essence of the Hadow Report is that the education they give shall be of a Secondary nature, rooted in the Primary system, but given through contact with practical activities as well as books. This essential function can be carried out in a variety of ways, dependent upon the special circumstances of each case. It is as well to remember this, for there are not lacking signs of hardening of the conception of Hadowism. So, too, the repetition of slogans will not solve the problems of the Senior and Central Schools. "Transfer at 11 plus," "Secondary education for all," and so on, require interpretation against a concrete background before they can have any real meaning.

The Problem of Leisure Time

Reference has been made to communal activities and their relationship to the work of the school. It cannot be too strongly emphasised that social changes demand corresponding changes in educational administration and practice. Unfortunately, there is often a considerable time-lag, and educational change is unduly delayed. It would seem that the present hiking and camping movement will constitute a definite change in our social habits. If so, it behoves the Senior Schools to take note of this and to consider its effect upon the work of the schools. The need for studies which will add interest to, and understanding of, the sights and sounds of the countryside is likely to be demanded. Similarly other changes in leisure-time pursuits call for a changing conception of the educational process.

The Problem of Discipline

There are other problems which the Senior School has still to solve. The coming into the schools of the new age-group will raise one of these problems in a very acute form—the problem of the nature of discipline. Generally speaking, there are two schools of discipline. The one demands obedience and holds that this is the essence of discipline, no matter what is the age of the pupil. The other advocates “freedom” in the schools—and again apparently at all ages. But is it not possible that different ages desire different kinds of discipline? The young child may need a physically safe environment from which he can venture forth and to which he can return should circumstances prove too much for him. In this physically safe environment he wants freedom to be active. The adolescent may desire a more authoritarian kind of discipline and the post-adolescent youth may desire self-government. But this is a problem to which the answer is as yet unknown. But it will raise itself as the age of children in the Senior School rises. And it should be clear that the solution to this problem has much to do with the evolution of a system of education appropriate to a democratic community.

The Dual Purpose of Education in a Democracy

The primary demand of all educationists must be for equality of educational opportunity for all. But it must be remembered that equality of opportunity does not mean the same kind of education for all. The idea that every child should go through the same education from the Nursery School to the University is not a democratic one. But democracy does demand an education based upon the individual needs of each child, and not upon the social and economic status of its parents. In a democracy education has a dual purpose. It has to train the child both for a vocation and also to equip him for intelligent and political life. The Dictator has an easier task, for all the education he provides has a strictly vocational aim. Beyond this the average citizen only needs military training in a wide sense.

It must be remembered that by far the greater proportion of the future citizens of the country will pass through the Senior and Central Schools, and in these schools they have to be trained for the dual task referred to above. It is this fact that makes the right development of these schools a matter of such vital interest. They may easily deteriorate into schools which have a purely “vocational” outlook, and by their neglect of their other function betray the trust reposed in them. They can, if all those concerned are willing to devote critical thought to their development, to conduct carefully planned experiments and to keep clear the vision of their function in society, result in the production of an educated democratic society.

H. G. STEAD

CHAPTER EIGHT

REORGANISATION OF ELEMENTARY EDUCATION IN COUNTIES

Differences Present Position

THE present time seems to be appropriate to review the progress made in the reorganisation of elementary education and to restate the principles upon which it is based

Some steps had already been taken, long before the publication of the Hadow Report, to provide separate buildings and a special connection for pupils over the age of 11 in public elementary schools, but no special effort had been made to justify these measures upon any sound or permanent educational philosophy. The issue of the Hadow Report supplied both the philosophy and gave an impetus to the "reorganisation" of elementary education in accordance with it.

No doubt for a time "reorganisation" meant simply a "re-shuffling" of pupils on an age basis, but without the necessary and desirable material foundations. In some areas this kind of reorganisation was immediately possible and was carried out, and it accounts in some measure for the advanced position claimed by some education authorities.¹

Obviously, however, this was not what was intended by the framers of the Hadow Report, who wished to see "reorganisation" carried out in buildings appropriate to the new idea in education, and they were right, for the provision of suitable buildings is the necessary prerequisite of sound reorganisation.

The years following the proposals to carry out this reorganisation of elementary education were not fortunate for the enterprise. Hardly had education authorities begun to make their plans and to begin their building schemes when the years of financial stringency were upon them and a disastrous delay occurred over the years 1931-35. Some authorities did indeed go on with their building schemes and reaped the reward of low building costs (and also, low grant returns on their outlay from the Board of Education, whose grants were suddenly, and in the opinion of many, unjustifiably cut from 50 per cent to 20 per cent).

Administrative Difficulties affecting Reorganisation

However, in 1935, grants on the basis of 50 per cent. of the cost to local education authorities were restored and great progress has been made in the provision of new buildings for "senior" schools. That reorganisation has not gone further than it has done up to date is due partly to the difficulties in getting the administrative

¹ See Board of Education List 49, issued 1937.

machinery—halted in 1931—moving efficiently again, partly to the fact that the four “dead” years brought with them arrears of necessary building which might have been overcome if no “halt” in the provision of new schools had occurred from 1931–35 and in previous years, partly also to the difficulties with which education authorities were faced due to population “shift” on a large scale. New housing schemes had made many existing schools redundant and obliged education authorities to provide others. All of this was quite apart from the necessity to provide the new type of senior schools. The incidence of difficulties of this kind fell with considerable weight upon urban and rural authorities and, additionally, so far as rural authorities were concerned, there was the added distraction of a general decline in rural population.

In spite of these formidable obstacles, however, reorganisation has gone on. Indeed, with the passing of the new Education Act in 1936, an added impetus (and, new difficulties) has been given to educational progress, and denominational bodies aiding the “supply” of educational facilities have been offered financial aid to enable them to march forward with the statutory authorities most concerned.

Factors to be Considered

So far as the reorganisation of schools in the county and more rural districts is concerned there are many factors, making for difficulty and delay, which are more common and more obstructive than they are in urban areas.

Attitude of Denominations

Among these may be mentioned the attitude of denominational bodies and religious opinion generally. In spite of the years which have elapsed since the disputes which accompanied the passing of the Education Act of 1902, memories of these disputes are still active in many rural areas. They make reorganisation difficult, and the Act of 1936 has, in some quarters, not done much to remove them. In the more remote areas, and especially in the North, the valleys are areas of pronounced sectarian sentiment and passive, if not active, opposition is nearly always to be expected. So long as it is necessary to secure the goodwill and approval of the individual bodies of managers to schemes of reorganisation, delay and discord are likely to occur and the true interests of the child are submerged beneath the acrid clouds of past controversies. Happily, however, it is becoming possible to make “gentlemen’s agreements” with religious bodies and to carry through schemes of reorganisation on the principle of defining areas of reorganisation in which a religious body has a predominant interest and leaving that body to carry out reorganisation subject to the general approval of the education authority and the Board of Education. There is some danger that in these cases the facilities which could be offered by the education authority may not be available on schemes promoted by

the denominational body, and here, of course, the child suffers. The provisions of the Education Act of 1936 do much to remove this disability. But even so it is still open for sectarian opinion to be so obstructive as to prevent a reasonable solution to purely educational problems and, in effect, to prevent reorganisation of existing schools.

It seems more than a little ridiculous that, at this date in the world's history, sectarian opinion cannot yet agree upon a common fund of religious principle in which the instruction of the child might proceed. The position is, of course, one of some danger to religion generally.

The Attitude of Parents and Managing Bodies

There is also the attitude of parents. It is, on all grounds, desirable to carry the goodwill and appreciation of parents towards schemes of reorganisation. This attitude invariably becomes favourable after a short experience of the benefits of the better and more appropriate education which a senior school affords, but in the initial stage opposition of parents is sometimes invoked in opposition to proposals of the local education authorities by those who oppose them on other and less justifiable grounds.

Sometimes effective and reasonable determination by the Board of Education is prevented by the existence of statutory obstacles.

Transport and Weather Meals and Clothes

The viewpoint of the parent in these cases is very understandable. There is the anxiety of a journey for the child, by omnibus, by cycle, or by walking on the highroads. There is anxiety as to the weather conditions. Wet clothes and boots mean colds and chills, if nothing worse. There is anxiety about food and, perhaps less reasonably, there is a reluctance to "lose" the child from early morning to five or six o'clock in the evening. All of these fears are natural and reasonable and the education authority must do all in its power to remove them or minimise their incidence. Thus it is unreasonable to "reorganise" on the basis of too-long journeys for the child. A maximum radius for schemes in rural districts would seem to be about five miles. It will be objected that if this were done in every case the necessary number of senior pupils could not be got together. But it has always seemed more reasonable not to be rigid in these matters and to weigh first the question of fatigue of travel. Adequate provision for drying clothes must be made and there seems still to be a considerable field for ingenuity in providing this. An essential of all schemes is the provision of a school kitchen where hot drinks and a hot midday meal can be provided at reasonable cost. The co-operation of school gardens and agricultural stations, which may be owned by the education authority, and the domestic instruction side of the school, work wonders in the reduction of costs per meal. Perhaps one of the most interesting features

of the reorganised school is the social and instructional possibilities of the school kitchen and the co-operation it invites

Village Status and the Countryside

A more difficult matter is the objection, so often raised against reorganisation in more rural districts, that the loss of senior pupils from the village school, to be transported to a senior school in some other more central point, is to lower the status of the village. The townsman can only realise with difficulty the activities of the village (often far greater than is commonly supposed) and the intense patriotism of the village unit, and its jealousy of neighbouring villages. It is, as a rule, a healthy sentiment. The "reduction" of the village school to a unit providing for the education of its pupils to the age of 11 years only is always resented, and it is difficult to put forward the suggestion that the new senior school for the district, as distinct from the village, is a reasonable and desirable thing. In time, and if the "direction" and development of the senior school is in wise hands, the school can become the focal point of its district and the hub of its activities. In functioning in this way, it tends to break down petty parochialism in favour of a district loyalty. Commonly, the real difficulty is the possible loss of the schoolmaster who can be so important a factor in village life. It is therefore desirable, whenever there is a reasonable chance of doing so, to retain the schoolmaster in the village community.

Building Costs

Finally, it is not sufficiently recognised that those local education authorities who must, by reason of the nature of their territory and its "spread" of population, build premises in areas remote from towns are likely to have to face higher building costs. It is common to assess costs by so many pounds per school place provided. Clearly the rural authority must pay more per school place than an urban authority, if it is to build and provide upon the same scale as the urban authority. Too often, perhaps because of this, it is assumed that provision on some less or inferior scale should be the rule for rural children. To countenance this duality of provision is not reasonable, bearing in mind the sound quality of rural human stock and the delightful character of the rural child.

Reorganisation Schemes

Types of Schemes

Reorganisation schemes are preferably based upon a unit of 320 senior pupils, who enter the school in blocks of 80 (2 classes) per year and who traverse a "four-year" course. This is comparatively easy to do in areas where sufficient pupils live within a reasonably short distance. Few county areas can solve their reorganisation problems so comfortably. Much depends upon the character of the

spread of population. Where it is reasonably uniform, difficulties are less acute and the reorganisation unit depends upon the radius imposed upon the scheme. As has been said, four to five miles' travel each way to the "senior" school is a reasonable maximum. But if the territory of the authority has the disadvantage of an uneven distribution of population difficulties multiply very quickly. Valley populations are difficult to organise, so also is it difficult where villages are strung out along highways, like beads upon a necklace, with empty spaces between.

No hard and fast rule should be laid down, therefore, as to the size of schools. Reorganisations may vary from 80-100 senior pupils up to the more desirable unit of 320 pupils. Indeed, it is necessary in some areas to devise three separate types of organisation for senior schools, and in one of these types to deal with the problem of "seasonal attendance" since weather conditions become too difficult to travel far or with certainty in winter.

Another point of importance is the desirability of planning both the school buildings and the curriculum in harmony with the employment and needs of the district served by the school. This is not to make the course of instruction vocational, but to ensure that the "vehicle" of instruction is something within the experience and interest of the pupils. The planning and design of schools with this aim in view cannot be reduced to any common form and the school must vary in design according to the purposes it has in view. This is extremely important in county areas where every reorganisation proposal presents a new problem and calls for different treatment. The principle is, of course, important in any area, but in a rural district it is of special interest. It is illustrated quite well by the fact that in one rural senior school, in addition to the general equipment of special rooms, the authority added a model dairy, an engineering workshop, and food-preserving rooms, and in an urban instance, by the addition of rooms and equipment for mining instruction and care and safety in mines.

Co-ordination of Junior and Senior Schools

An important element in reorganisation schemes is the relationship between the senior—centralised—school and its satellite infant and junior schools.

To some extent the modernising of the premises of those schools left for the use of infant and junior pupils is awaiting the completion of senior schools, but even so the benefits arising out of greater space and a simpler organisation are helping to improve the standard of the infant and junior schools. It would be a mistake to subordinate the true interests of the junior school and it must develop its own personality, but this need not conflict with the creation of senior schools. It is common practice, especially in the rural districts, to arrange conferences between the head teachers of the senior and junior schools within the reorganisation area. These conferences

deal with matters relating to the co-ordination of teaching methods, sports, exhibitions, open days, the curricula of the several schools, and so forth

Position of the Senior School in the Educational System

It is rather early yet to assess the real effect of the principles of Hadow reorganisation upon the educational system in England. That it has enlivened and brightened the elementary schools is understandable and it is clear that its possibilities are endless.

What is not yet clear is the relationship of the senior school to adult education, and to the secondary school. Clearly in rural districts the senior school is likely to become the educational centre for adult work. The "Village College" ideal of the Cambridgeshire Local Education Authority is perhaps the best example of the relations which can be built up between the senior school and the educational needs of the adult population of the reorganisation area. It is a common feature of such schools in rural districts. Their new and spacious accommodation—particularly the workshop, the halls (with stages) and gymnasiums, offer facilities to the community which the community is not slow to appreciate. The local Young Farmers' Club establishes its headquarters at the school, the local Dramatic Society uses the hall and stage, the development of the Keep Fit movement locally centres round the use of the school gymnasium. In one area, schools discarded, or becoming redundant because of reorganisation, are being refitted and converted into gymnasiums for general use. All goes to show that reorganisation is affecting the community at large just as much as it has affected the general structure of elementary education.

The relationship to secondary schools is at present obscured. To a considerable body of educational opinion it seems that 11 years is too early to make an effective or reasonable selection of those pupils who are deemed to be best suited to the more academic instruction of the secondary schools. It is argued that it might be more reasonable for the whole group of pupils of 11 years to go through the senior schools and for a selection to be made at, say, 13 years, of those deemed likely to benefit most from the curriculum of the secondary schools. To this kind of opinion, it seems that the early years at a secondary school are not likely to be much different, so far as the pupil is concerned, from his experiences in a senior school, and that, in fact, there is overlapping of a costly kind.

Be this as it may, it is clear that the relationships between senior and secondary schools still await clearer definition.

H. M. SPINK

CHAPTER NINE

THE RURAL SENIOR SCHOOL

Introduction

THE Rural Senior School means many things to many people. In most rural areas it is known, if known at all, only through Board of Education publications, or through reports which have penetrated from other areas where senior schools have been established. Actually, on March 31st, 1937, there were fourteen predominantly rural counties which had yet to open their first school of this kind. In other counties, the senior school has established itself sufficiently firmly to be regarded as a new feature which has come to stay. Among those who know senior schools and those who do not, opinion varies between the extremes of profound mistrust and the conviction that they have already established a claim to be the salvation of the countryside. The rural senior school is still, in fact, in the process of creation, and at present it eludes any attempt to give a very precise account of it.

The idea of the senior school was not a sudden growth. Had it been so, it may be safely predicted that it would never have borne fruit. It grew out of the educational system no less inevitably than the secondary school, and the fact that it is already permissible to talk of the rural senior school as a distinctive type is significant of the growth that is continuing. The little village school of to-day is a link with the times when compulsory elementary education was in its infancy. Schools were built in fact, if not always in theory, for what were known as the "3 R's," that is, reading, writing and arithmetic. This was a modest programme, and the buildings placed on sites of a small fraction of an acre were on a correspondingly modest scale. There had to be classrooms, a blackboard, desks and the materials for reading, and pen, pencil and paper, or more often slates. This curriculum was carried out with a thoroughness to which many will testify and with a formality which bore little relation to the spontaneous interests of the pupil. Thus the facilities were adequate to the aim and the aim was achieved. In process of time, the zeal which had established compulsory education demanded more compulsory education, or, in other words, a longer school life. With what must have seemed to some the extremest caution, the school-leaving age was raised step by step with exemption, and finally without exemption, until, in 1922, it reached the age of 14, which is the rule to-day. A study of the history of this change shows that meanwhile education was gradually being humanised and brought into closer relation with everyday life. The improvements, however, in the length and quality of elementary education were accompanied by no corresponding

improvement in the facilities afforded by school premises, an omission which was particularly conspicuous in the rural areas. The curriculum was consequently losing its proportion. It is well to confine education to the "three R's" when there is no time to teach any more. When, however, the time exists for a more varied course, it becomes a calamity if the extension can proceed only in the direction of more study of books.

Official Recognition of Practical Instruction

A sense of this ultimately found expression in the 1918 Act when, for the first time, it became the duty of local education authorities to arrange practical instruction for the older children. The Act stated that this might be done by means of "central schools, central or special classes, or otherwise." Authorities inclined naturally in the first instance to the most economical provision, which was that of centres. Rooms for the teaching of domestic subjects and woodwork were established at schools situated at natural centres of communication, and children travelled in from the surrounding districts for a morning or afternoon's instruction in these subjects. The arrangement had many disadvantages, chief among which were that the pupils took one form of instruction in one school and one in another, with the result that the practical work became sharply differentiated from the remainder of the curriculum, and the village child, preferring these subjects to those which were taught in his own school, began to look elsewhere than to his school for the most enjoyable part of his school life. Fortunately, before the centre system was anything like fully established, the Consultative Committee issued in 1926 the famous Hadow Report. The Board of Education, treating this report with more courtesy and promptitude than are sometimes accorded the deliberations of a departmental committee, followed up the report in 1928 with their educational pamphlet *The New Prospect*, which expressed their adoption of the main recommendations of the Hadow Report as their official policy. Henceforward, older children were to attend the centres not merely for practical work, but for all their instruction, and practical work was to be not merely isolated instruction in woodwork and domestic subjects, but a varied scheme of practical crafts which should be correlated with the rest of the curriculum and might occupy up to about half the children's time at school.

*Influence of the "Suggestions"*¹

It was perhaps unfortunate that the advice to build senior schools was not immediately accompanied by a revision of the Building Regulations. Perhaps, from another point of view, it was fortunate, since the new regulations or "Suggestions," as they were called, issued in 1936, proposed such an advance in standards of accommodation, that their publication at an earlier date might have pre-

¹ See YEAR BOOK OF EDUCATION, 1938, pages 11-15.

judged on economic grounds the whole conception of senior schools at the outset. As it happened, on the publication of *The New Prospect*, certain county authorities immediately set to work to provide new senior schools on the more modest scale which then seemed appropriate. Schools built at that time generally consisted of the customary classrooms, with the addition of an assembly hall and special rooms for woodwork, domestic subjects, science, and occasionally one larger room for crafts. The "Suggestions" undoubtedly reflected the experience gained in these schools, and it is not surprising that the growth in understanding of the potentialities of the senior school was followed by a growth in the accommodation regarded as essential. Few schools have as yet been erected in accordance with the new standards, and a study of the senior school of to-day must, therefore, be in the main a consideration of the development which took place between 1926 and 1936.

Significance of Transfer at 11 Plus

It must not be supposed that the senior school came about entirely owing to a recognition of the need for practical instruction. Nor was it a ruling consideration that it was less expensive to provide the new facilities at a few schools centrally placed than in every little village. The Hadow Report rightly emphasised the fundamental value to a child in taking him away at about the age of 11 years from the associations to which he had become accustomed as a junior, and giving him a fresh start in new surroundings simultaneously with the physical and psychological changes of adolescence. It followed that with his new growth it was healthy that he should be given an opportunity of pitting his strength against, and sharing interests with, numbers of boys and girls of his own age. This concentration of numbers had other incidental, but none the less important, advantages, in that it permitted of classification according to aptitude and ability and the employment of sufficient staff to ensure that specialists could be available to meet the needs of a broadening curriculum.

Some Difficulties of Reorganisation

In the early days of reorganisation the pathetic plea was often heard that the senior school was no doubt a godsend to the towns, but that those who framed the proposals could have no understanding of the countryside. Genuinely anxious parents attended meetings called by the education authorities and asked how they could be expected to submit to a system which required that their children should rise at an unnaturally early hour, walk through the rain to meet the school conveyance, arrive at school wet, subsist all day on sandwiches, run wild during the interval between morning and afternoon sessions, incur the contempt of their superior town-bred cousins and come home late at night tired out. There were

whispers, too, of the demoralising and dangerous conditions which must accompany any form of conveyance and of the corroding effect of contact with children from other and more prosperous districts, which would make their own children discontented with their lot. These difficulties have nearly all been successfully braved or met. The senior school may open in the morning a little later than the village schools, the routes of conveyances can be adjusted to reduce distances walked, drying-rooms can be provided to deal with the problem of wet clothes, canteens can be organised to provide a satisfactory two-course meal for the sum of 3d, children can be restrained during the midday meal from exposing themselves to physical and moral dangers in the large villages or small country towns where the senior schools may be situated, and finally, experience has shown that with careful management of the conveyance time-table children can arrive home at practically the same hour as was customary when they attended their village school. Two difficulties remained. Education authorities were accused of urbanising the country child. This problem is on the way to solution through the adaptation of the curriculum to the circumstances of country life. They were accused also of breaking up village community life and providing nothing in its place. Much remains to be done to mitigate the loss of village community spirit, even though that loss has only been affected to a minor extent by the new school organisation.

Social Influence of Senior Schools on Rural Life

The concern expressed for the preservation of the country child's interest in country surroundings goes deeper than any concern for mere book learning as understood by the countryman. It touches his unconscious faith in the poetry of life, the tradition of his forefathers and his hopes for the future. It is, therefore, the cardinal consideration which a rural education authority ignores only at its peril. It is unnecessary to dwell on the deficiencies of the little self-contained village school—its poverty of numbers and, therefore, of the impulse of competition, the restriction in number and qualifications of teachers, dependent on the smallness of the school, of the age and defectiveness of many of the buildings, and the general narrowness of horizon which has allowed the school to remain what it was while life has gone on in the towns and provided new opportunities proper to a progressive life. The senior school must obviously mark a new and glorious beginning for many young adolescents otherwise destined to listen within the same walls and sometimes to the same teacher whom they have known from the age of 5. The temptation is not to inquire whether reorganisation is desirable in the country districts, but positively to state, too, that valuable as the senior school may be in the towns, it is still more valuable in the rural areas. The truth is that it is valuable in so far as the extension of educational facilities takes

account of the conditions of country life, and with this proviso it may be that the decadence of country districts, which so many allege and deplore, may be met and turned into rejuvenation by the help of the very agency of the senior school which is regarded by some with such mistrust

Special Needs of Rural Senior Schools

The first need of the rural senior school is land. Town schools require land for playing-fields and to some extent for school gardens. For rural schools it is essential, not in order to produce of necessity tillers of the land, but because the child has been bred amidst associations of the land, and it is axiomatic that good teaching must be related to conditions with which the children are familiar. The *Suggestions for Planning of Elementary Schools*, published in 1936, state that for a school of 320 pupils it is desirable that the school site, including land for playing-fields, school garden and rural science instruction, should be eight or nine acres. Some enlightened authorities have regarded this area as insufficient, and have procured sites of an area up to thirteen to fifteen acres. The land is the central theme of the curriculum. Science is related to the school garden through a study of soils, air and water, and all the conditions of plant growth. The woodwork and metalwork instruction serves a practical purpose in providing the tool shed, greenhouses and frames, and helping to carry out the numerous odd jobs which are necessary in a school garden. Exercise in arithmetic is involved in the problems of practical instruction, and even the more literary subjects of the curriculum can be lent significance by giving them a homely reference. For the girls, the emphasis is more on home-making, through the study of cooking, housewifery, laundrywork and other domestic crafts, but the good countrywife has to be adaptable, and the girls are rightly not excluded from contact with the practical activities of the boys. While this conception of a rural senior school is no longer rare, some authorities have gone further by arranging instruction in what is known as rural science. This may consist of a study of the scientific principles underlying poultry work and dairywork. A small number of birds are kept, and while the pupil is learning how they can be a profitable adjunct to a cottage or farm, he or she learns also a respect for science as an addition to country lore. Dairywork is also undertaken, but probably with less success, since the enthusiasm of the pupils, which extends to looking after poultry during the holiday, is not sufficient to solve the practical problems of keeping cattle. Nevertheless, much of value is learnt, both of theory and practice, in regard to cleanliness of milk, and the course is generally illustrated by visits to farms. Schools are to be found where beekeeping is a flourishing subject, and where special experiments are carried out in agricultural science to help elucidate problems of manures, grass and crops. The object throughout is

to make the instruction vivid by using the interests of the pupils' daily life

It needs little imagination to foresee the easy step from the enjoyment of these rural activities to the enrolment of children as members of young farmers' clubs, and to the establishment of a connection between the rural senior schools and agricultural colleges and farm institutes

The Aims of Rural Science

Pioneers of rural science have run the risk of being ridiculed by the practical countryman. What is the use of school gardening when a boy can learn all that a country boy needs to know in his garden at home? It would not be very tactful to reply that parental knowledge may not be the sum of all wisdom, and indeed this would not be a complete answer. The primary aim of school gardening is to teach underlying scientific principles, and whereas a failure in a vegetable crop at home may be regarded as a calamity, it is possible that at school it may be the starting-point of a valuable train of scientific inquiry. With the introduction of poultry and dairywork education authorities have wisely been more cautious. A good head teacher might perhaps be relied upon to hold his own as a school gardener, but it would ordinarily be asking too much to expect him to manage livestock with a carefree mind under the critical eye of the farmer. Consequently the schools have generally made use of the poultry and dairy experts on the staff of the Agricultural Committee. This arrangement has satisfied public opinion, but has exposed education committees to criticism from another direction. If the teacher fresh from college cannot immediately adapt himself to the purposes of his headmaster, how can good results come from young men and women who may be expert technicians but have never previously attempted to understand the aims and methods of the elementary school? Head teachers generously allow that these visiting experts may be excellently qualified to advise the farming community—to further, in fact, the aims of an agricultural committee, but they lack a full understanding of a type of education which is directed towards the general development of the pupil, irrespective of what occupation he may eventually adopt. The ideal teacher of rural science is obviously one who combines an understanding of school aims with sufficient technical abilities to inspire confidence in the rural parent. Such a paragon, however, is rare, and training colleges and education authorities have recently turned their attention towards supplying the deficiency. The adaptability of the colleges is admirable, and nothing but good can result from the efforts which they are making to train teachers in a more realistic outlook on their work. Some education authorities have tried the experiment of sending selected teachers to courses of three months' duration at an agricultural college. It is essential that such courses, carried out with the help of the college staff, should be under the direction of someone who is familiar with

the school point of view With this safeguard the general aim of the work is not lost, while the teachers come into contact with the routine of farm life and practical farming problems to a degree which may not be of immediate teaching value, but which cannot fail to give them a deeper understanding of the background of their pupils' daily lives

Some agriculturists, still rather suspicious of the practical abilities of the teacher turned technical expert, would like to see at work in the schools the young man or woman who has started with a qualification in agriculture and has subsequently learnt something of the mysteries of teaching The aim of producing the combination of teacher and expert is, however, the same in each case, and the permanent solution lies in the training college Opportunities, however, should always exist for short courses for serving teachers, both to satisfy an interest which may have developed after the student stage, and to refresh those teachers already engaged in rural science, whose teaching may have lost reality through lack of contact with the practical problems with which their science is concerned Contact, also, between the schools and the staff of the agricultural committee will no doubt always remain of value for the solution of practical difficulties involving expert technical knowledge

Is the Cost of Reorganisation Justifiable ?

The increasing attention paid to rural activities has already partially allayed the suspicions with which senior schools have been regarded in agricultural areas It has nevertheless been observed that the school premises have exemplified increasingly liberal standards of accommodation, and fears are expressed that the ultimate cost of reorganisation will be more than the public can bear While making due allowance for the Englishman's, and particularly the countryman's, traditional right to grumble, there is no doubt that the first modest conception of a senior school has expanded very considerably The critic is, however, on less sure ground when at the same time he urges that the curriculum should be more practical, since it is the practical work which is mainly responsible for the increased accommodation A small woodwork room may have been sufficient when the syllabus consisted largely of making relatively small models To-day, not only must the woodwork room be large enough to serve the practical needs of the outdoor activities, but there must be facilities for metalwork as well The girls must have a domestic subjects room capable of taking not merely coal ranges, but of making proper use of the gas and electric services which are reaching the rural areas They must have a large room, also, for needlecraft which has got beyond the stage which can be managed satisfactorily in the classroom desk and has developed into dressmaking There must be large rooms for other crafts, such as bookbinding, painting or pottery, and any other

activity which may be related to a local industry. Practical work requires space, and in proportion as this side of the curriculum has grown, school premises have grown too. Yet it would be a very blind enthusiast who did not sometimes wonder whether this spacious accommodation, often the most impressive of a whole neighbourhood, was thoroughly justified. The answer might be that if the schools served the children alone, the scale of accommodation should be reduced. Fortunately, however, this answer need not be given, since the schools seem destined to fulfil a need which is daily becoming more obvious with the changing of village life.

Will Senior Schools accelerate Break-up of Rural Life ?

Critics of the centralised system of schools say that the village as a social unit is already breaking up, and that the coming of the senior school will accelerate the process. They do not say whether the retention of the self-contained village school will retard the present tendency. That parish boundaries have lost a great deal of their meaning is obvious. For shopping, for entertainment and for employment, the inhabitants look less and less to the village and more and more to the nearest town. The causes might make an interesting subject of sociological study, but among them would undoubtedly be reckoned the extension of transport facilities and general economic considerations. It might be argued that any extension of the individual's horizon has a value which more than counterbalances the loss of the traditional blessings of village life. There would be many, however, who would hold the opposite view, and it is not necessary to debate this question, since the pertinent fact is that the village is no longer, and cannot become again, the self-sufficient community that it once used to be. The contention that the senior school accelerates the change is based on the belief that the older boys and girls will become accustomed to spending most of their days outside their villages, rubbing shoulders with boys and girls with different tastes and experiences, and will be no longer content as they grow up to return to the limitations of their village life. On the other hand, while the senior children are away developing new interests outside the village, all the activities which used to depend on their presence will cease. Sports, dramatic productions, fêtes and so on, must proceed without a section of the community or not at all. Yet, however deplorable these results might seem, the solution does not appear to lie in opposing to the general weakening of village self-sufficiency which it is complained is already going on the static policy of allowing the educational facilities to remain as they are, the product of the past, and inferior to the opportunities in the town. The general tendencies cannot be reversed, but they can be guided.

Enough has been said of the concern of education authorities to deepen the children's interests in country surroundings by

arranging a curriculum related to the land. The social life of the village is in a state of transition, that of the senior school has scarcely begun. At present the school is a hollow shell until about nine o'clock in the morning, when conveyances draw up at the gate and it comes to life. At about four o'clock in the afternoon the conveyances again appear and the emptiness of the school recurs. The empty hours are relieved by an occasional evening class, but only one or two rooms will be lighted up, and the school will present a far from attractive appearance. Meanwhile, one wonders what is happening to those village youths who are supposed to seek urban amusements. In the small market town one may be sure that, even though these amusements may be harmless, they do not exemplify a wise use of leisure. There seems, in fact, to be a waste—a waste of time and a waste of the school.

The Senior School as a Social Centre

Section 86 of the Education Act, 1918, empowered education authorities to make arrangements to supply or maintain or aid "centres and equipment for physical training" and "other facilities for social and physical training in the day or evening." This power was in respect of children or older persons attending an educational institution. The Physical Training and Recreation Act extends the powers to include persons of any age, whether attending an educational institution or not. It is significant that while Section 86 of the Education Act may have been observed by a few particularly interested individuals, it has passed unnoticed by the majority of administrators until brought into prominence by its relation to the Physical Training and Recreation Act, which provides the natural sequel to it. In the developments of the future the senior school must not invariably suffer the depredations of the school conveyance at about four o'clock. The conveyance must sometimes call at a later hour, or it must take only a section of the children, the remainder staying on for some social occasion. The school has playing-fields, a hall, a cinema projector, a gymnasium and a canteen. Use can, and should, be made of these, not only in school hours, but out of school hours, and not only by the pupils of the schools, but by elder brothers and sisters, and even by the parents. If necessary, the school must be extended for this purpose. In so far as the village is ceasing to be a centre for the profitable use of leisure, the senior school must take its place, and the parents may then cease to regard the commodious school buildings as an alien structure of which some of them are even a little afraid, but as of accommodation provided by themselves through the rates for themselves. This development depends on an imagination and human understanding of what a profitable occupation may be. For education authorities which have been wont to regard anything but a specific course of study as frivolous, the change may be difficult to conceive. Nevertheless, recent legislation clearly

recognises the propriety of an expenditure of public money on the stimulation of a healthy and truly recreative use of leisure, and the responsibility for deciding whether anything or nothing is to be done to this end has been placed upon local government bodies. Some education authorities, for instance the County of Cambridge, if one may judge from reports of its village colleges, have already recognised their responsibility in this direction.

Conclusion

The reason why the rural senior school has had such a mixed reception is because it brings about a change which at first sight is revolutionary, and revolution, which is never congenial to the national temperament, is particularly unwelcome in country districts. At second sight the change is not revolutionary. It has grown out of the past, is changing in the present, and will no doubt be modified in the future as the natural accompaniment of other changes. If there is one fact which is more conspicuous than another in its short history, it is surely the extent to which the rural senior school has developed in accord with the instinctive wisdom of public opinion. The country will have nothing of the senior school built to an urban pattern, and the country is right. Where, however, the authorities have lent an ear to local opinion, the first shock of apprehension has changed to cautious approval, and eventually even to the enthusiasm such as that manifest in the letter from a body of managers of a village school on the border of a reorganised district, who wrote to the County Education Committee as follows:

"I am to inform you that the Managers consider the children will greatly benefit by attending a senior school. The Managers heartily welcomed the Scheme, and decided to apply for the admission of children over 11 years to the — senior school when completed."

R. N. ARMFELT

PART SIX

The Education of Females in British India

CHAPTER ONE

INTRODUCTORY SURVEY

The Fact of Past Neglect

THE chapters in this section have been written from different aspects of the same subject, and by men and women with varying experiences, but there is complete unanimity among them in stressing not only the vital importance of girls' education in India, but also the depressing consequences which have resulted from grave neglect.

This sad tradition of neglect has its roots deep in the past. Mr Paranjpe has pointed out that the educational needs of girls were not even discussed by the British authorities until many years after definite measures had been taken for the education of boys, but there is some force in his contention that hasty action at that time would have provoked strenuous opposition and that future prospects might have thereby been jeopardised. The safer, and certainly the easier, course was therefore adopted of postponing widespread action until public conscience had been aroused and until there had arisen a clear demand by the Indian public for a rapid advance.

Such few efforts as were then made were due to far-sighted officials such as Mr J E D Bethune, but mainly to Christian missionary societies. The progress of the latter, however, was often embarrassed by the fear among parents, not without justification, that conversion to Christianity was the main objective. Mr Paranjpe has also told the touching story of how a few brave-hearted Indians of lowly status and meagre resources spent their little all in maintaining schools for girls. The story of those early institutions, and the success which some of them have achieved, provoke the thought that even in those days greater courage would have been the wiser course. In any case, those schools which braved the storm are now rich in the heritage of deep-rooted traditions and of past achievements.

But there can be little excuse for the neglect of the last fifty years, during which time active opposition was turning into passive apathy, and still less excuse is there for the neglect of the last ten years at a time when widespread interest has been replacing passive apathy. And so it is that, with the passing of each year, the grave disparity between boys' and girls' education and in the financial support which each receives, ever tends to widen.

The Results of Neglect

The direct results of neglect are revealed by the figures. There are more than four times as many boys as girls at schools, and, what is more serious, the disparity becomes greater as the educational ladder is ascended. In 1935-6, approximately 65,000 boys passed Matriculation or equivalent examinations, as against 4,500 girls, and nearly 12,000 males graduated in arts and science, as against 500 females.

The indirect results, however, are even more distressing. It is a platitude, though often forgotten, that education is largely dependent on the home in any country, but especially so in India where the position of the mother is still supreme and unchallenged, yet she herself is only too often uneducated and, therefore, incapable of interesting herself in the education of her children. Many Indian children, therefore, have perforce to lead dual lives. Half of each day is spent at school, where they are engrossed in school studies and school activities, but the other half of each day is often spent in a home, the atmosphere of which is even antagonistic to those studies and activities. Thus the home, which should play an important part in the education of the young, is often, in India, the centre of indulgence and apathy.

But the children are not the only sufferers, the wife and the husband also suffer. Miss McNair has alluded to the poignant situation in which the uneducated wife is sometimes placed when her husband seeks another consort who will be able to share with him his activities and interests. The husband's motive in doing so, though reprehensible, is also intelligible. In referring to the new type of family that is now growing up in India, Miss McNair has given the correct solution of present troubles—a wide and a well-devised advance in girls' education.

Nursing and Teaching

There are further untoward results from the backwardness of women's education. There are certain callings such as nursing and teaching, for which, given adequate education and training, women are more fitted than men. There is also no reason why Indian women should not acquit themselves at least as well as women in other countries in such callings, but, owing to the neglect of their education, India still possesses vast untapped resources which might have been harnessed to her progress.

In particular has the cause of education suffered. Without the widespread participation of women in the work of the schools, that educational expansion which is so sorely needed must continue inevitably to be retarded. Those who have experience of education in western countries will recall the fact that the vast majority of teachers in the primary stage are women, yet, in India, not only are little boys taught almost entirely by men, but even the girls' primary schools are often staffed by aged men of doubtful capacity. They

will also recall the fact that women are by nature far more competent than men in dealing with the infant classes of either sex. The deficiency of women teachers goes far to account for the lamentable inadequacy of infant teaching in India. This fundamental weakness afflicts the whole structure of education throughout the land.

Defective Primary Education

It is unnecessary to do more than recapitulate the doleful contents of subsequent chapters in respect to primary education. The girls' schools are comparatively few and far apart, and thus, as is not the case with boys, many girls are precluded from attending school even if their parents desired them to do so. Moreover, such schools as there may be are usually of minute enrolment and are of the single teacher variety, in Bengal alone there are nearly 15,000 such schools. The single teacher, himself or herself, has rarely received training and possesses only meagre qualifications. Only 56 per cent of the teachers in the primary schools for girls have been trained, and, as Mr Saiyidain has observed, the vast majority even of those who have been trained have received only a year's training, and possess an insufficient foundation of general education which would enable them to benefit by such training. The teachers, also, rarely receive advice and encouragement, but rather studied indifference, especially in the villages in which the majority have to carry out their duties. For the reasons given by Lady Hartog, the stimulus of inspection is often denied them. Unrelieved depression is for the majority their sad lot.

Many of the schools, especially in Bengal, are also incomplete and comprise only the three lower classes. In view of this limitation, it is not surprising that in Bengal only four girls, on an average, out of every hundred enrolled in the primary stage are successful in reaching Class IV, when literacy can reasonably be anticipated.

In many of the provinces, especially Bengal and Bihar, a large number of the schools are what may be termed "venture schools", these are maintained by needy persons until such time as they can find more lucrative employment elsewhere. Such schools further neither tradition nor continuity, they are here to-day, but are gone to-morrow.

Mrs Harper has alluded to yet another complication, which is caused by communal and linguistic demands. In the Punjab, in particular, not only are schools unnecessarily multiplied in many villages, but the number of languages which little girls are expected to study is clearly excessive.

Need for Improved Curricula

The inadequacy of the present position is widely acknowledged, and many are the proposals for its improvement.

Mrs Harper and Mr Saiyidain are strongly of opinion that the courses should be radically altered. Indeed, the latter appears

to suggest that the apathy which still persists among parents in rural areas would be counteracted if only the courses in the schools were adapted to the requirements of girls. Once this was done, girls would flock to school in order to receive education which would be widely appreciated. This expectation is possibly optimistic, and it is at least open to question whether the existing teachers would be equal to these new demands. It is unwise to put new wine into old bottles, and, as will be pointed out later, it is the new bottles in the form of improved administration and more liberal financial support that should first be provided.

Though Mrs Harper is a strong advocate of new courses and improved methods of teaching, she is even more insistent that, with only slight modification in the interests of the sexes, they should be applicable to both boys and girls. This view was also held by the committee appointed by the Central Advisory Board, and points to the advisability of extending, with suitable safeguards, the practice of co-education. We shall return to this matter shortly.

Need for Better-qualified Teachers

Mr Paranjpe has made a valuable contribution. His contention is that a rapid extension of primary education, by itself, is not the first desideratum. What is primarily required is the provision of more education of a higher standard. The education of girls cannot be put on a sound footing, even if the courses are improved, so long as the general qualifications of the teachers are little higher than are those of the better girls whom they teach.

Lady Hartog is apparently of the same opinion in that she holds that, prior to training, school teachers should have completed the middle school course, for that purpose she pleads for an improvement and an extension of the middle schools. Indeed, her plea is a reiteration of the opinion offered ten years ago by the Hartog Committee—which is as applicable to girls' as to boys' education.

"It seems to us quite clear that, as matters stand in India, effective arrangements for training vernacular teachers must, generally speaking, precede the expansion of primary schools, and the training of vernacular teachers itself depends upon a good supply of recruits from the middle vernacular schools. Hence money spent on the expansion and improvement of middle vernacular schools and on vernacular training institutions will yield a larger and more permanently fruitful return than money spent on almost any other of the many objects which are dear to the heart of the educationist."¹

These opinions may appear dull and unenterprising, but they are none the less sound. Unless and until a larger body of women teachers, adequately trained and adequately educated, has been made available, all attempts to extend the primary system will be in vain.

¹ Hartog Committee Report, page 77

The Problem of Co-education

Even to those who are intimate with the position of education in India, the figures regarding co-education come somewhat as a surprise in that as many as 1,268,562¹ out of a total of 3,013,440 girls now at school are enrolled in institutions which are primarily intended for boys. Indeed, like the British Empire in its rapid growth during the eighteenth century, India seems to have embraced the practice of co-education almost "in a fit of absence of mind." Though, on the other hand, it seems obvious that, especially in sparsely populated rural areas, little girls should accompany their little brothers to school, it is also possible that, if wrongly applied, a system of co-education might defeat the very objects which it set out to achieve. The system should be applied not only to the pupils, but also to the staffs; little girls should not be admitted to boys' schools merely on sufferance. It is possible, indeed, that the experiment would be on surer foundations if it were first attempted in the better girls' schools. It is therefore a happy augury for the future that steps are now being taken to recruit and to train suitable women teachers for the purpose, and the suggestion that wives of teachers should have training with a view to their participating in the schools where their husbands are already teaching is well worthy of consideration. But such women should not be appointed on the score of economy. Indeed, the opinion often voiced by Mr C F Strickland that the wife of a teacher should receive more and not less than the current rate has considerable force. In any case, the experiment is of vital importance, and money spent generously in the initial stages would be well spent. If, by means of co-education, the infant teaching of boys as well as of girls could be improved, a signal success will have been achieved.

Is Compulsion a Wise Policy?

There is also a strong demand in favour of a widespread enforcement of compulsion, but it is doubtful whether, in present circumstances, such a measure on a large scale would be beneficial. As has been pointed out, the cost would be prohibitive. Even the rough estimates which have been prepared are staggering in their immensity. But even if the financial obstacle could be surmounted, it is doubtful whether compulsion on a wide scale would be effective. The elimination of wastage is an essential preliminary to the enforcement of compulsion. Moreover, it would be of doubtful morality to compel parents to send their girls to school unless and until the schooling were worth while, it would also be a risky experiment to flood the countryside with attendance officers who might batten on the poor and render the cause of education a byword and a reproach. On the other hand, wherever conditions appear favourable, compulsion should undoubtedly be applied. The girls should not have to wait until the boys have been satiated.

¹ These figures have now been reduced by the separation of Burma from the Indian Empire.

Secondary and Higher Education

Far more promising progress has been made in recent years in secondary and higher education for girls. Not only have the secondary schools been multiplied in number, but (what is far more important) girls are now tending to stay longer at school and therefore reap greater benefit by their schooling. Reports from all sides also demonstrate that the education of these girls is becoming the richer by the widening of the school horizon, in particular, by the successful efforts which are being made to improve physical well-being through the playing of games and other forms of healthy recreation.

This general improvement is also reflected by rapid progress (the epithet "phenomenal" might even be used) in examination figures. The following statistics are of considerable importance.

GIRL CANDIDATES FOR MATRICULATION OR EQUIVALENT EXAMINATION

PROVINCE	SUCCESSFUL CANDIDATES		
	1927	1932	1936
Madras	383	542	911
Bombay	175	375	544
Bengal	157	394	1,180
United Provinces	82	139	311
Punjab	60	336	813
Burma	120	281	309
Bihar and Orissa	8	13	37
Central Provinces	16	49	139
Assam	32	53	112
North-West Frontier Province	6	6	20
Other Areas	—	—	220
Total	1,039	2,188	4,526

NUMBER OF WOMEN GRADUATES

(B A and B Sc Examinations (Pass only))

PROVINCE	SUCCESSFUL CANDIDATES		
	1927	1932	1936
Madras	54	56	106
Bombay	20	27	65
Bengal	29	64	120
United Provinces	11	32	87
Punjab	9	20	80
Burma	5	14	21
Bihar and Orissa	1	—	3
Central Provinces	1	6	16
Assam	—	1	—
North-West Frontier Province	—	—	—
British India (including minor administrations)	130	226	488

The figures in the first table are a little misleading, as those for "other areas" in 1927 and 1932 are not available

Promising Changes

Much has been said in appreciation of the admirable work which is being done by the small, but efficient, women's colleges, and of the urgent need of a re-direction of policy. For example, the Commission on Christian Higher Education in India, of which the Master of Balliol, and until recently Vice-Chancellor of the University of Oxford, was chairman, wrote these words

"There is no more pressing need or inspiring opportunity in the present educational situation in India than that presented by women's education. The resources at present expended on men's and on women's education respectively do not at all represent the proportion of the needs and opportunities of men's and of women's education. We commend an earnest consideration of possible ways of rectifying this disproportion"¹

In her survey, Miss McNair, Principal of Kinnaird College, Lahore, has given a stimulating account of the history of that College. For many years, as she has related, progress was extremely slow and disheartening; yet almost in a moment of time, the position has now been transformed into one of rapid and hopeful progress. In place of the limited enrolment of scarcely 40 girls, the numbers have now increased to over 200, and there is besides a long waiting list of girls eagerly seeking admission. Even more exhilarating, the authorities of the College are not lacking in courage. Almost as an act of faith they have acquired a new site on the outskirts of Lahore and will shortly proceed to erect new buildings on that site.

The original intention was also to include in this section a similar article to be written by Miss Ranga Rau, Principal of the Central College for Women, Nagpur, but she has unfortunately been prevented by illness from doing so. Otherwise, she would have told the story of the starting of the College and of the heroic efforts which have been, and are being, made to develop this promising institution.

The story of these two colleges, the one which after years of disappointment has suddenly come into its own only to be faced by new and complex problems regarding its future development, and the other which, having surmounted the difficult period of birth, is now looking forward hopefully to a vigorous childhood, is but typical of what is going on in many parts of India. Illustrations of the progress now being made by the women's colleges and of the new problems by which they are being confronted could easily be multiplied. It is depressing, however, that the Diocesan College in Calcutta has had to be closed in spite of the generous offer made by the Wantage Sisters to supply the backbone of the staff. The

¹ *Christian Higher Education in India*, pages 254-5

high hopes that were once entertained that Hastings House would be made available for the College have not been fulfilled

New Problems

The very success of the women's colleges has brought into prominence new problems. The initial problem was to enrol a sufficient number of girls to justify their continuance, but the new problem confronting many of the colleges is how to provide for ever-increasing numbers without reducing their efficiency or destroying their individuality. The awkward question arises whether, in the course of time, they will not become feeble replicas of the gigantic men's colleges with their glaring limitations.

The main trouble in the men's colleges is due to the very rapid increase in the number of students, many of whom are unfitted to benefit by collegiate teaching of a purely literary type. In consequence, the classes are congested and the better-gifted students do not have that teaching and training which they deserve. Moreover, owing to the prolongation of purely literary study, students become averse from practical occupations and training. Hence India is faced not so much by a problem of unemployment as of unemployables.

The Central Advisory Board were of the opinion that the root of the trouble lies in the schools, and recommended a radical scheme of school reconstruction. The school course should be liberated from the domination of universities and be divided into separate stages, each with its own objective, and at the end of each stage pupils should be diverted to practical occupations or practical training to be given in separate vocational institutions. The Board also advised that secondary education in rural areas should be adapted to rural requirements, for that purpose vernacular middle schools should be both multiplied and improved.

Miss McNair has shown that the problem of increasing numbers of women students is already becoming acute in Lahore, and that to some extent relief is given by a number of "private colleges" for women, these are not affiliated to the university but, in accordance with a concession permitted by the university in respect of women, they send their students as private candidates for the university examinations. This device, as pointed out by Miss McNair, is unsatisfactory, as it is the collegiate training rather than the mere passing of examinations that really matters, and the unfortunate impression is given that high standards are not as necessary in the case of women as of men.

Other solutions have, therefore, to be found. The easy solution would be to provide for increasing numbers by a further expansion of the existing colleges, but, as already suggested, it would be a tragedy if in this respect the women's colleges followed in the wake of the men's colleges.

Mr. Paranjpe seeks a solution by a rapid extension of co-education at the collegiate stage and observes that "women students do not

now demand even separate colleges for women " This predilection may obtain in Bombay Presidency, but in other parts of India, especially in the north, women's colleges are still widely appreciated. Indeed, Miss McNair is of opinion that " most parents, if compelled to choose between sending their daughters to a first-class men's college or to a third-class ' private ' college for women would choose the latter " This may be an over-statement, as even in the north opinion is steadily veering in the direction of co-education. Where the arrangements are carefully supervised, as in the case of St Stephen's, Delhi, there is a growing demand by girls for admission to men's colleges. There can be no doubt that they should not be regarded merely as supernumeraries and that some women at least should find places on the staff.

Miss McNair has made a valuable suggestion regarding the possibility of co-operation between suitably located men's and women's colleges in the sphere of post-graduate work, and she has expressed the hope that such co-operation will be found possible between Kinnaird and Forman Colleges in Lahore as soon as they have both moved to their new sites, which are adjacent. It may be that this practice could be extended to certain of the honours classes for bachelors' degrees.

School Reconstruction

Even a rapid extension of co-education, however, would provide only a partial remedy, while it would impose an additional responsibility on the already overburdened men's colleges. It therefore appears urgent that the scheme of school education should be reviewed with a view to its diastic reconstruction. But the problems facing the education of the two sexes are not entirely similar. While the primary object of boys both in school and college is " service," that of girls is rather that of " culture " and freedom.

Miss McNair's comments on the subject of the domestic arts and sciences are therefore of importance. It may seem peculiar at first sight that the demand for such studies is at present voiced by men rather than by women, but it is none the less true. In general, the men are thinking mainly of a concession to women in the form of a " soft option," while women not unnaturally regard such a proposal mainly as a device whereby they shall hug their chains more efficiently.

What is really required is some means whereby many girls will be encouraged to employ the time between leaving school and marriage with benefit both to themselves and to their future homes. After the completion of a somewhat shortened secondary stage, such as was proposed by the Central Advisory Board, many girls might attempt a three-years' course in schools of domestic science, but the course should avoid the pitfall of being too specialised. It should be of a general nature and should strive to combine the " liberal arts " with the kind of education that a young wife would find directly useful in her married home.

There is also an urgent need of providing more scope for women with the requisite education and training in promoting the welfare of rural areas. The secondary education of girls, as given in vernacular middle schools, is at present both limited and unsuitable, it is even more urban and literary than that given in the similar schools for boys. If suitable education at that stage could be provided for girls, and if, subsequent to that education, training could be arranged both for teaching in schools and in other directions, a hopeful vista of beneficent work in the villages would brighten both the prospects of the countryside and the lives of the women themselves.

Growing Enthusiasm

All the surveys in this section are united in bearing testimony to the growing enthusiasm for girls' education among all sections of the people, and also to the welcome fact that the women themselves have been prominent in giving a lead. Political changes have provided a stimulus. The discussions of the several women's associations also reveal the fact that women in general are determined as far as possible to banish communal considerations from the sphere of education.

Provincial governments also show signs of making a response, though tardily, to the lead which has thus been given. Though, as will be discussed later, financial support is still inadequate, most provincial authorities have been busy in considering how a great advance can best be made as soon as funds are forthcoming.

The Central Advisory Board has also given a heartening lead. Two committees have been formed, to the recommendations of which reference is made in subsequent chapters.

Finance and Administration

Lady Hartog has placed her finger on the main reasons why, in spite of welcome signs of improvement, progress is still so disappointingly slow—inadequate finances and the absence of any far-sighted plan of advance.

Finance

That there has been neglect in the past is only too true and is confirmed by facts and figures. Statistics, however, are often misleading and should be studied with caution. For example, they do not provide an accurate basis for comparing the expenditure on boys' and girls' education. The cost of educating those girls who are attending boys' schools is debited to boys' education, and there are also other charges, such as those on direction and certain forms of inspection, which should be taken into account. But, after making all allowances, it will be sufficiently accurate for our purpose to deduce that six times as much money is spent on boys' as on girls' education.

What is even more alarming is that this wide disparity tends to increase rather than decrease. As long as ten years ago, the Hartog Committee administered a grave warning and offered sound advice. They suggested that "in the interests of the advance of Indian education as a whole, priority should be given to the claims of girls' education in every scheme of expansion"¹. Though there is no sentence in their report which has been more often quoted and commended than this one, their recommendation has passed almost unheeded. The Educational Commissioner has provided the depressing information that in 1935-6 (the latest year for which figures are available), only Rs 928,357 were allocated to girls' education out of a total of Rs 80,67,589 of additional expenditure on education. Thus the gap, already great, continues to widen.

The fact remains that much lip-service is paid to girls' education. Though legislatures almost invariably approve projects for increased expenditure on education, yet the suggestion that expenditure on university or boys' education should be reduced in order to lessen the disparity is rarely advanced. Indeed, such a suggestion, if it were made, would be unlikely to be successful.

Local bodies, with but few exceptions, are extremely niggardly in their support of girls' schools. The Educational Commissioner was fully justified in his stricture that they "are more vocal than generous in their support of girls' schools."

What is more depressing is that much even of the money that is actually spent on girls' education is unwisely spent. In subsequent chapters allusion is often made to the alarming extent of wastage that afflicts girls' schools of the primary grade, and Mrs Harper is fully justified in her contention that communal schools at that stage should not be encouraged in the villages of the Punjab. A thorough overhaul of existing expenditure is required before large additional expenditure is incurred.

Administration

There is also, save possibly in Madras, an absence of far-sighted planning, and the reason of this grave omission is a lack of persons with sufficient leisure and knowledge to map out a plan of campaign. The administration of girls' education is still almost entirely in the hands of men. Overworked and harassed administrators, frequently criticised on account of the acknowledged inadequacy of boys' education, are not unnaturally reluctant to add to their anxieties by themselves initiating bold schemes for the advancement of girls' education, it is also difficult for male administrators to carry out such a task when they are precluded on account of *pudah* restrictions even from entering many of the schools which are in their charge. The women inspectresses have done what they could within their limited resources, but they have been insufficiently encouraged to extend their scope widely. Moreover, they have not enjoyed easy access to those in ultimate authority, they are often

¹ *Report of the Hartog Committee*

touring in distant places at the very time when the estimates for the forthcoming year are under consideration

The writer of this article, however, was fortunate in securing the co-operation of a Deputy-Directress, who was at hand in his office in the Punjab and not only offered valuable advice, but was also in a position to prepare proposals for the advancement of girls' education. The appointment of this official was the probable reason why the Punjab, once very backward in girls' education, has been enabled to make at least some progress in recent years. But if a real advance is to be made throughout India, it is essential that in every province there should be at headquarters such an official who will possess both the authority and the experience to carry weight with provincial governments.

But if a Deputy-Directress is to carry out her responsibilities, she must be supported by an adequate number of inspectresses. The figures included by Lady Hartog in her survey, however, reveal that, except in Madras and possibly in the Punjab, the cadre of inspectresses is generally inadequate. It is disappointing that but few of the provinces have yet taken what should have been the first step towards inaugurating that movement which is generally admitted to be vital to the progress of India.

GEORGE ANDERSON

CHAPTER TWO

FEMALE EDUCATION IN INDIA FINANCE AND ADMINISTRATION

Introduction

THE women of India are playing an increasingly important part in public affairs. The last ten years have seen what is probably the most rapid and remarkable advance of the women's movement in the world. This advance has been stimulated by the growth and influence of women's associations, notably the All-India Women's Conference, and perhaps still more by the nationalist movement. Equality of the sexes has been advocated from early days by the leaders of the Indian National Congress, which has had two women Presidents. The importance of women's representation was recognised in the new Indian constitution by the specific inclusion of seats for women in every provincial legislature, except that of the North-West Frontier Province. Not only have these special women's seats been filled, for the most part after keenly contested elections, but several seats in the general constituencies were won by women standing against men candidates.

India has now between fifty and sixty women members in the upper and lower houses of the provincial legislatures. There is a woman cabinet minister in the United Provinces, two women parliamentary secretaries (in the Punjab and Bombay), two women deputy speakers of Assemblies, and two more as deputy presidents of Councils (upper houses). There is no bar to women either in the universities or in the professions, and in these women have attained positions of high distinction. They are also serving as honorary magistrates, on city corporations and on local bodies.

From all these facts it might appear that the position of women in India leaves little to be desired. Unfortunately, this is not the case. While the influence of individual women is great, their collective influence is very small. The educated and highly cultured section of Indian womanhood is but a tiny fraction of the 164 millions who go to make up the female population.

In the Census of 1931 the female literacy figure for India as a whole was under 3 per cent. Since the separation of Burma, the province in which female literacy was highest, the figure for British India stands at no more than 2.1 per cent.

The neglect of girls' education in the past has been generally attributed to social conditions, to conservatism, to purdah, to child marriage, and in more recent years to the idea among parents that school education for a girl is of no importance. The stage in which girls' education was regarded as undesirable was followed by the stage in which it was considered unnecessary, and this apathetic attitude on the part of parents has been encouraged

by the absence of women teachers and by unattractive schools. Even to-day less than one-fifth of the girls of school-going age are at school, and more than three-quarters (86 per cent) of these are withdrawn before they have even attained literacy.

Yet there is every sign that prejudice and apathy have been largely overcome, and among all classes the demand for the provision of education for girls is increasing year by year. This is confirmed in the reports from every province of British India. For the last few years girls have been flocking into the primary schools for boys, and even into boys' secondary schools, the secondary schools for girls are themselves overcrowded, while the number of girl students in the colleges has increased by over 75 per cent since 1932.

Importance of Girls' Education

One need scarcely emphasise here the vital importance of girls' education. It affects every phase of life. "In our boys' primary schools we teach hygiene, cleanliness and the principles of better living to children who go back to the squalor of their home life and promptly forget in the example of their homes all they have learnt. Unless the women are educated all our preaching is in vain."¹ The position was well summed up by the Education Committee of the Simon Commission (Hartog Committee). "The whole case for women's education rests on the claim that education is not the privilege of one sex, but equally the right of both, and that neither one sex nor the other can advance by itself without a strain on the social and national system and injury to itself."²

Educated Indian opinion is in general agreement with this statement. But although it is realised that the education of girls is essential for national progress, the necessary steps in respect of finance and administration have not been taken.

The Finance of Female Education

Institutions for girls are financed by (a) Government funds, (b) local (district board and municipal) funds, (c) fees and (d) other sources.

The Hartog Committee pointed out that during the ten years 1917-27 the total increase in direct expenditure on boys' education was 832 lakhs, but on girls' education only 127 lakhs.³ Their final recommendation was as follows: "We are definitely of opinion that, in the interest of the advance of Indian education as a whole, priority should now be given to the claims of girls' education in every scheme of expansion."⁴

¹ Central Advisory Board of Education. Report of the Women's Education Committee on primary education of girls in India, 1936, page 16.

² Interim Report of the Indian Statutory Commission (Hartog Report), page 183.

³ *Op cit*, page 149.

⁴ *Op cit*, page 183.

Let us examine the position to-day, nearly ten years later. The figures are taken from the last published report of *Education in India* and relate to the year 1935-6

	Rs
Total expenditure on boys' education	23,48,71,575
Total expenditure on girls' education	3,83,08,114
Grand total of expenditure on education	27,32,39,689

of which less than one-seventh goes to girls

Government expenditure on boys' education	10,24,41,499
Government expenditure on girls' education	1,59,97,374
Grand total of Government expenditure	11,84,38,873

of which again less than one-seventh goes to girls

It is true that the figures for girls' education do not include the amounts spent on girls who are in institutions for boys, and more than 40 per cent of all girls in the primary stage are now going to boys' schools. Nor do they include the expenditure on men's universities and colleges, to which girls are admitted without restriction, but in which they form only some 3 per cent of the total enrolment.

Still, when all due allowance has been made, there remains an immense discrepancy of expenditure as between the sexes. Discrepancy of expenditure and discrepancy in numbers are correlated. Each year as more new money is spent on boys than on girls, the great gap between the number of educated boys and educated girls grows yet wider. Unless funds are provided, there can be no large-scale expansion of girls' education.

Comparison between the Provinces

There is a great difference between the provinces in this matter, as will be seen from the table on page 404 which shows the percentage of Government expenditure on education allotted to female education in 1935 and 1936 respectively, as compared with the percentage allotted to university education.

It will be noticed that in 1936 all provincial Governments except the Punjab, Assam and the Central Provinces *decreased* their percentages of Government expenditure on girls' education.

In liberality towards girls' education Madras easily leads. It has also gone farthest ahead in the organisation of girls' education. As between the provinces it spends the greatest percentage of Government money on institutions for girls (twice as much as on university education), and thus notwithstanding the fact that there is more co-education in Madras than in any other province, and that there are now far more girls in boys' primary schools than in primary schools for girls. Expenditure on considerably more than half the girls at the primary stage must therefore be added to the comparatively large expenditure on institutions for girls.

On the other hand, Bihar and Orissa and the United Provinces

**PERCENTAGE OF GOVERNMENT EXPENDITURE
SPENT ON THE UNIVERSITY EDUCATION OF
MALES AND ON FEMALE EDUCATION, 1935-6 ¹**

PROVINCE	PERCENTAGE OF GOVERNMENT EXPENDITURE SPENT ON		
	UNIVERSITIES AND COLLEGES (ALL TYPES) FOR MALES	INSTITUTIONS MEANT FOR FEMALES (INCLUDING INDIRECT EXPENDITURE)	
	(1936)	(1936)	(1935)
Madras	9.6	18.2	19.1
Bombay	5.9	14.4	14.5
Bengal	23.8	12.5	13.0
United Provinces	20.6	9.9	9.9
Punjab	12.1	11.9	11.0
Bihar and Orissa	25.0	9.3	9.8
Central Provinces and Berar	11.4	13.4	13.3
Assam	9.0	9.3	9.2
North-West Frontier Province	8.3	10.0	12.1

¹ *Education in India in 1935-6*, page 57

in 1936 allotted only 9.3 and 9.9 per cent respectively of Government funds to girls' education, and 25 and 20.6 per cent respectively to university education. Even the Punjab, which has been very progressive in the administration of girls' education in recent years, only devotes 12 per cent of Government funds to that purpose.

The Need for more Money

The recommendation of the Hartog Committee that priority should be given to girls in all schemes of expansion has unfortunately not been followed. It is again repeated by the Educational Commissioner in his latest Review ¹. If it had been acted upon, a larger proportion of new money would have been allotted to girls than to boys. What is the actual position? In the year 1935-6 there was a total increase of expenditure on education amounting to over 80 lakhs, but of this sum 71 lakhs went to boys' and only 9 lakhs to girls' education ². Even making the over-liberal assumption that girls benefit equally with boys from the new expenditure on boys' primary schools, since girls are admitted to them, there is still a grave disproportion. "It is unfortunately true," says the Educational Commissioner with the Government of India, "that local bodies, who are mainly responsible for primary education, are more vocal than generous in their support of girls' education."

Also in respect of high school education one reads that, in spite of an ever-growing demand, funds are not forthcoming. Something,

¹ *Education in India in 1935-6*, page 56

² *Education in India in 1935-6*, page 11

however, has been done, and the Bombay Government have decided to give preference to girls' secondary schools over boys' in the matter of grants-in-aid.¹

The present altogether unsatisfactory position has been clearly emphasised by the Women's Education Committee of the reconstituted Central Advisory Board of Education, in two valuable reports which have been circulated to provincial Governments and were made public in the year 1938.² The constitution of this committee is one of the most encouraging signs for the future, for perhaps by its means the more backward provinces will be stimulated to undertake a reconstruction of their programmes in respect of girls' education. The committee found that "in every case there is lack of money, lack of enthusiasm by local bodies for girls' education and a refusal to prefer its claims to those of boys or even to give it a fair proportion".³

Resolutions of the Women's Education Committee

The committee passed some important resolutions relating to the financing of girls' primary education. They recommended that girls' primary education should have a prior claim on public funds when provision for both boys and girls could not be found, and that the proportionate expenditure on girls' education should be increased. They also suggested a readjustment of expenditure (1) by increasing the fees for secondary and higher education, thus releasing Government funds for the expansion of girls' education, and (2) by eliminating the wasteful expenditure on incomplete and inefficient primary schools, especially boys' schools, and by using the money thus saved both for the improvement of boys' primary education and for the expansion of education for girls.⁴ In a further resolution they recommended that provincial Governments should consider the necessity of insisting that all local bodies should spend an adequate proportion of educational funds on girls' education. They rightly pointed out that the provincial Governments' power of the purse gave them considerable control over local authorities if they cared to exercise it.

Urgent Improvements and Estimated Cost

The committee also prepared an interesting estimate of the cost of raising girls' primary education to the same standard as that for boys, i.e. of bringing the proportion of girls attending school up to the proportion of boys already at school, and reckoning the annual

¹ *Op cit*, page 68.

² Central Advisory Board of Education. Report of the Women's Education Committee on primary education of girls in India, 1936, and Report of the Women's Education Committee of the Central Advisory Board of Education to consider the curriculum of Girls' Primary Schools in India, 1937.

³ Central Advisory Board of Education. Report of the Women's Education Committee on primary education of girls in India, 1936, page 4.

⁴ *Op cit*, pages 5 and 13.

cost of each girl at Rs 10. They found that it would cost over Rs 5½ crores, and we have seen that the total amount at present spent on institutions for girls is Rs 3½ crores. This gives an idea of the magnitude of the problem.

There is a further point to be stressed. With respect to the allocation by local bodies (or by Governments) of a definite proportion of educational funds to the expansion of girls' primary education, it is frequently stated that it is neither possible nor desirable to keep separate accounts for the expenditure on boys and on girls, since most of the primary schools for boys are now mixed schools. But there seems to be no reason why sums should not be allotted with the definite purpose of assisting the expansion of girls' education, to be spent on such objects as (1) suitable buildings, (2) opening of new training schools for women teachers, especially in rural areas, and (3) salaries for one or more women teachers in mixed primary schools which are at present staffed entirely by men.

From all provinces come complaints from inspectresses that girls' schools are often housed in most unsatisfactory rented buildings, dark, ill-ventilated, damp, insufficient in accommodation, without playgrounds, and that local bodies and district boards will not spend money on putting up suitable buildings. Again, many primary schools for boys need to be enlarged if they are to take their full quota of girls, and separate sanitary arrangements need to be provided. Further, one of the most urgent needs for the expansion of girls' education is the provision of more teachers' training schools in rural areas. As almost the entire cost of training schools (over 75 per cent) is met from Government funds, it would be possible for funds to be earmarked for this purpose.

On all sides there is only too ample evidence that enthusiasm for girls' education in India has not yet expressed itself in terms of essential financial provision. When one sex is so far behind the other, it is not even enough to treat the two sexes on the basis of equality (as seems to be foreshadowed in the policy of the new Governments) until an approximate equality has been reached as a new starting-point.

The Administration of Female Education

It is true that there is great stringency in finance, but this makes a planned policy and adequate inspection not less but more necessary, so that every rupee shall be used to the best advantage.

It is now realised that the handing over of almost complete control of primary education to local bodies, who administer or expend the grants made to them by Government, has been in many ways unsatisfactory in respect of both boys and girls. "Wastage" is far worse in the case of girls than in the case of boys, and as a result a large proportion of the expenditure on primary education is spent to no purpose. Local bodies, according to the Women's Education Committee, have not been "interested" in

improving girls' education, and unless the machinery for control of girls' primary education is improved, money will continue to be wasted.¹

In the province of Bombay, where not only control but also the inspection of primary education of both girls and boys has been handed over to local bodies, the new Government found it advisable in May 1938 to pass a Bill amending the Primary Education Act and providing that each local school board should have an administrative officer appointed by Government.

Bengal has far more girls' primary schools than any other province (over 18,700 in 1935, whereas Madras, with the next highest number, had less than 5,500), yet, as things are, these schools contribute little or nothing to the literacy or educational progress of the province. The majority are aided schools (i.e. privately controlled schools in receipt of a Government grant), only 16 per cent being managed by local boards as against 67 per cent in Madras. For the most part, they are incomplete, single-teacher schools, i.e. with only three classes, the majority of them in charge of untrained men teachers. Educationally the whole system, according to the official reports, is, with a few exceptions, "practically useless." Yet in the absence of a system of efficient control, Government continues to contribute a proportion of the funds which keep this useless system in being. It is at any rate encouraging that at last a beginning has been made in the elimination of these inefficient schools, and that their number was reduced by over 1,000 during the year 1935-6.² An Advisory Board on girls' education has also been set up, composed largely of women, to furnish the Education Department with practical suggestions. It is to be hoped that this is the beginning of a new movement in girls' education in Bengal, where there is a genuine desire that girls should be educated, as is proved by the fact that the percentage of expenditure on primary schools covered by fees is considerably higher than in any other province.

Need of Planned Expansion

Of the necessity for the planned control of the development of girls' education, if the grievous mistakes made in respect of boys through uncontrolled expansion are not to be repeated, there can be little doubt.

Take, for example, the problem of recruiting more women teachers for the villages. If village girls are to be trained as teachers, they must be given a middle school (or upper primary) education, which may involve the opening of new middle schools, as well as training schools in rural areas with hostels for the students attached. Then again, in order to supply the more highly qualified teachers who will be wanted for the training schools, more high school accommodation may become necessary. For mixed primary schools in rural areas, where it is difficult for women teachers to live alone, provision must

¹ *Op. cit.*, page 13.

² *Education in India in 1935-6*, page 54.

be made for the training of married couples or for sending two women teachers together.

A planned policy is also needed systematically to eliminate or improve incomplete and single-teacher schools, to formulate progressive building schemes, for want of which, as inspectresses point out in vain, many local boards continue to pay high and, in the end, uneconomical rents for quite unsuitable buildings, to organise propaganda on behalf of girls' education, and to devise methods for making compulsion for girls a reality, at least in the modified form of keeping girls once at school up to the limit of the compulsory age.

Women on Headquarters Staffs

The carrying out of such a planned policy should be the special charge of an officer on the headquarters staff of the Director of Public Instruction, whose business it would be to make a detailed study of the needs of girls' education in the province concerned, and who should preferably be a woman and have direct access to the Minister. Representations in this sense were made by both Indian and British women's associations during the discussions preceding the passing of the Government of India Act of 1935 and the bringing into force of the new constitution, but the official view was that such recommendations would be an interference with provincial autonomy.

Madras and the Punjab are the only provinces which have had a Deputy Directress of Girls' Education, and in Madras the post has for some years been in abeyance. The overworked women's inspecting staff make valuable reports, but they have neither the time to work out a planned policy nor the authority to see that their recommendations are put into effect.

The System of Inspection

The inspecting staff for girls' schools in the different provinces, with the possible exception of Madras, is entirely inadequate, as may be seen from the table on page 409.¹

The whole position is most unsatisfactory, as is emphasised by the Women's Education Committee of the Central Advisory Board, and also by the Educational Commissioner with the Government of India, who says in his latest report: "The increase of the inspectorate for girls' schools is not keeping pace with the great expansion of girls' education. Only in the Punjab has there been any improvement in the number of inspectresses. It is obvious that careful guidance, wise advice and efficient control will be necessary if the education of girls is to develop satisfactorily."²

The Women's Education Committee point out that circle inspectresses have so large an area to control that it is physically impossible for them to visit more than a fraction of the schools, and that in some

¹ *Education in India in 1935-6*, pp. 98-100, and *Census of India, 1931*, vol. 1, Part II, Table I.

² *Education in India in 1935-6*, page 18.

INSPECTING STAFF OF GIRLS' SCHOOLS BY PROVINCES

PROVINCE	POPULATION (1941)	INSPECTING STAFF	TOTAL NUMBER OF POSTS
Madras	46,740,107	6 Inspectresses 1 Assistant inspectress 51 Sub-assistant inspectresses	58
Bombay ¹	21,879,123	4 Inspectresses	4
Bengal	50,114,002	2 Inspectresses 12 Assistant inspectresses	14
United Provinces	48,408,763	1 Chief inspectress 10 Inspectresses 1 Assistant inspectress	12
Punjab	23,580,852	1 Deputy directress 3 Circle inspectresses 18 Assistant inspectresses 1 Inspectress of domestic science 1 Inspectress of physical training	24
Bihar and Orissa ²	37,677,576	1 Inspectress 9 District inspectresses 2 Lady superintendents of <i>paidanashun</i> work	12
Central Provinces	15,507,723	2 Inspectresses 4 Assistant inspectresses	6
Assam	8,622,251	1 Assistant inspectress	1
North-West Frontier Province	2,425,076	1 Inspectress 1 Assistant inspectress	2

¹ The population figure does not include Aden, which was separated from Bombay in 1932. The Province of Sind was separated from the Bombay Presidency in 1936.

² Now divided into the separate Provinces of Bihar and of Orissa.

provinces inspection of girls' primary schools is left to men on the subordinate inspecting staff, who are already overburdened with work and by whom it is entirely neglected. As a result, many primary schools have no inspection whatever, and continue "unawakened, uninvigorated, and unperturbed" ¹. The Committee recommended that there should be at least one inspectress per district as well as women supervisors of primary education appointed by local bodies in smaller areas. Inspectresses should be able to spend long enough time in a school to hear the teachers' difficulties, to make suggestions and to carry new ideas from school to school, so that the teacher shall find in the visit of inspection a real stimulus. The report of the Women's Education Committee on Curriculum pointed out that until the inspectorate has been increased, such

¹ Central Advisory Board of Education. *Report of the Women's Education Committee on Primary Education of Girls in India, 1936*, pages 13-14.

stimulus would be impossible, and even the keenest young teacher requires help, guidance and encouragement¹

Organisation in Madras

Madras is not only the province which has spent most money on girls' education, but it has also led the way in planned administration. Some ten years ago a definite policy for the expansion and promotion of girls' education was adopted. A Deputy Directress of Girls' Education was appointed, several committees of women were set up to report on curricula, physical education, the syllabus in training schools, etc., and a permanent Women's Advisory Committee was also constituted. As a result of the new policy well over 2,000 new elementary schools for girls and 22 new training schools were opened during the quinquennium 1927-32,² and at the present time not only are there far more girls at school than in any other province (over 370,000 in girls' schools and over 500,000 in boys' schools), but Madras is the one province which has anything approaching an adequate inspecting staff, an adequate supply of women teachers, and an adequate number of training schools—nearly 85 per cent of primary teachers are now trained. Many experiments in new methods of teaching have been carried out, and at this time, when so much stress is being laid on vocational education, it is interesting that for some years the curriculum in a number of elementary schools for girls has included, besides health and household management, practical instruction in spinning, carpet and tape weaving, basket-making, lace-making, etc., with special relation to the occupations or industries of the locality.

Unfortunately the problem of "wastage" is just as acute in Madras as elsewhere. The expansion of girls' education in the first years was not sufficiently controlled, and in this connection it may be recalled that the post of Deputy Directress has been in abeyance for some years. Wastage in girls' primary education is indeed more serious in Madras than in several other provinces, but it is now being realised how uneconomic is unplanned expansion, and that better results will be obtained by ensuring that existing schools are efficient and properly staffed than by the mere opening of new ones. Efforts are now being made to provide some women teachers for the mixed schools, from which girls are usually withdrawn after the three lowest standards. In a communiqué to the Press issued in June 1937 the Government then in office stated plainly that it regarded schemes of compulsion for girls as even more important than schemes of compulsion for boys, and that it realised that the education of women in India is to-day more important than the education of men.

¹ Central Advisory Board of Education. *Report of the Women's Education Committee of the Central Advisory Board of Education to consider the Curriculum of Girls' Primary Schools in India, 1937*, page 8.

² *Madras Report on Public Instruction for the Quinquennium 1927-8 to 1931-2*, pages 6-7.

Organisation in the Punjab

Another province which has made great progress with the organisation of education for girls is the Punjab, not many years ago a very backward province in respect of girls' education. Progress is largely due to a series of sympathetic Directors of Public Instruction and to the appointment of a Deputy Directress of Girls' Education in 1920.

Although the Punjab is not one of the largest provinces and there are far fewer girls at school than in Madras, Bombay or Bengal, it has more inspectresses than any other province except Madras, and is working up to its self-imposed aim of having one inspectress to each district. The staff includes a special inspectress for Domestic Science and another for Physical Training.

In the five years 1932-7, over 200 new institutions for girls have been opened, the number of assistant inspectresses has been increased, and a training college for women graduates has been established. The problem of providing women teachers for villages is being tackled by opening training classes (normal schools) attached to middle schools in rural areas. At the same time, a scheme is being tried of training wives of village schoolmasters for mixed schools, and a few experimental co-educational schools have been opened under women instead of men teachers. Refresher courses arranged by the inspectresses are giving inspiration and stimulus to vernacular teachers. These details are mentioned in order to show how much it depends on wise administration to make the best use of the funds available, for the Punjab has not been generous to girls' education and allots to it less than 12 per cent of Government expenditure on education.

Is it too much to hope that the future may bring for girls' education both an adequate proportion of available funds and wisely planned control?

MABEL HARTOG

CHAPTER THREE

HISTORICAL SURVEY OF FEMALE EDUCATION

The Beginnings of Female Education

FOR the purpose of evaluating the present conditions and future prospects of girls' education in India, it is necessary first to glance back at the beginnings of modern education, which had its roots a hundred years ago.

"Prior to the Despatch of 1854 from the Court of Directors," wrote the late Mr J A Richey, "female education was not recognised as a branch of the State system in India. The attention of the authorities does not appear to have been directed to the subject until many years after they had adopted definite measures for the education of boys. In none of the general despatches relating to educational matters submitted to, or received from, the Court of Directors during the first half of the (nineteenth) century is there any reference to the education of Indian girls and women. It would seem that the authorities both in England and in India were of opinion that any attempt to introduce female education, when there was no demand for it, might have been regarded by the people as an interference with their social customs."¹

The policy of the Indian Government was first laid down in the Despatch of 1854. "The importance of female education in India cannot be overrated, and we have observed with pleasure evidence of an increased desire on the part of many of the natives of India to give a good education to their daughters. By this means a far greater proportional impulse is imparted to the educational and moral tone of the people than by the education of men. We have already observed that schools for females are included among those to which grants-in-aid may be given and we cannot refrain from expressing cordial sympathy with the efforts which are made in this direction. Our Governor-General in Council has declared in a communication to the Government of Bengal that the Government ought to give to native female education in India its frank and cordial support, in this we heartily concur."

The communication in question was a letter from the Government of India, dated April 11th, 1850, the last paragraphs of which run thus: "The Governor-General in Council considers that a great work has been done in the first successful introduction of native female education in India (by the Hon'ble Mr J E D Bethune) on sound and solid foundation and that the Government ought to give it its frank and cordial support."

"The Governor-General in Council requests that the Council of

¹ Selections from *Educational Records* (1840 to 1859), Part II, J A Richey, page 32

Education may be informed that it is henceforward to consider its functions as comprising the superintendence of native female education, and that wherever any disposition is shown by the natives to establish female schools it will be its duty to give them all possible encouragement and to further their plans in every way that is not inconsistent with the efficiency of the institutions already under their management. It is the wish also of the Governor-General in Council that intimation to the same effect should be given to the chief civil officers of the moffusil calling their attention to the growing disposition among the natives to establish female schools and directing them to use all means at their disposal for encouraging those institutions and for making it generally known that the Government views them with very great approbation"¹

The occasion for this direction of the Governor-General arose out of a request of a member of the Governor-General's Council, the Hon Mr J E D Bethune. In his letter to Lord Dalhousie, dated March 29th, 1850, Mr Bethune describes the causes which induced him to start and conduct a girls' school in Calcutta, the measure of success attained, and the opposition which confronted him.

"The failure of every attempt to induce respectable natives to send their daughters to a missionary school, and the conviction which I have that the system of the Government schools is best calculated for producing a rapid and salutary effect in the country, induced me to establish my school on the same principle of excluding from it all religious teaching. Great excitement was caused, as I expected,

by the opening of my school, which at first numbered only eleven pupils, and it was vehemently opposed by many of the most influential natives of Calcutta. On the other hand, I was not left without encouragement by those who were favourable to my plan.

Pandit Madanmohan Tarkalankar, one of the pandits of Sanskrit College, not only sent his two daughters to the school, but has continued to attend it daily to give gratuitous instruction to children in Bengali and has employed his leisure time in the compilation of a series of elementary Bengali books expressly for their use.

"(But) every kind of annoyance and persecution was set on foot to deter my friends from continuing to support the school, and with such success that at one time the number of enrolled pupils dwindled to seven, and on some occasions not more than three or four were present.

We continued to keep the school open in the face of this discouraging defection, and, one of our chief opponents having died, it began to revive until the numbers rose to thirty-one."

Similar schools were started in other towns in Bengal—at Ootai-

¹ In their Despatch of 1854, the Court of Directors apparently approved of this direction to civil officers, but in an earlier Despatch (September 4th, 1850), they wrote "With reference to the feelings of the natives in respect of female education, great caution and prudence will be required in carrying out that part of your instructions (of April 11th, 1850) which directs the chief civil officers of the moffusil to use all means at their disposal for encouraging these institutions"—*Selections from Educational Records*, Part II, pages 59 and 61.

parah, Baraset, Neebudhia, Sooksagar and Jessore—thus indicating the interest which was being taken in the matter. But “wherever a school has been established,” continues Mr Bethune, “there has been a repetition of the system of persecution and intimidation which we have to contend with in Calcutta. I am of opinion that the time is come when all that is needed to secure complete success is a declaration on the part of Government that it looks on the schools with a favourable eye. No opposition to the declared wishes of Government is to be apprehended. I wish to recommend that the Council of Education be informed by Your Lordship in Council that it is henceforward to consider its functions as comprising also the superintendence of native female education and that wherever any disposition is shown by the natives to establish female schools, it is to give them all possible encouragement and to further their plans in every way that is not inconsistent with the efficiency of the institutions already under their management.”¹

“If Your Lordship in Council shall be of opinion that this course may be taken with propriety, it may be right to suggest also to the Government of Bengal that special instructions be issued to magistrates calling their attention to the growing disposition among the natives to institute female schools and to endeavours which have been made to stifle them, and directing them to use all means in their power to make it known that the Government views the establishment of such schools with great satisfaction, to encourage their promotion in all proper ways, and specially to intimate to those who may be active in opposing them that, while the Government does not desire forcibly to impose any such institutions on the people in opposition to their wishes, it will not overlook any attempt to ill-treat or intimidate those who are engaged in furthering a work which the Government considers so beneficial.”²

It would be unreasonable to judge either the efforts of these early pioneers in women's education or the obstinacy of public sentiment in the light of present experience. A hundred years ago the Indian masses could not have been expected to possess the same appreciation of literacy and education that they now have, and if the temptation of employment in Government offices had not then been before them, even boys' schools would not have prospered. Literacy was in those days at a discount. Illiterate kings ruled over large provinces, and illiterate generals led armies to battle. Education was a necessity only for those who aspired to be a priest or a clerk. It was but natural, therefore, that girls' schools failed to attract pupils in those days. Progress was further handicapped by the fact that the earlier attempts in girls' education had been made by Christian missionaries, whose schools were regarded as agencies for proselytisation. In such circumstances there was no alternative but to continue in patience until prejudice had weakened

¹ It may be noted that the letter of the Governor-General in Council referred to on page 412 uses these very words.

² Selections from *Educational Records*, Part II, pages 52-6

"The Missionaries of this early period seem to have had at least two definite aims in mind in connexion with the starting of the girls' boarding school (at Ahmednagar). One of these was to lead Indians to see that girls could profitably be educated so that they themselves would establish girls' schools. The second aim in starting the boarding school was to bring girls more completely under Christian influence in the hope that many of those thus educated could become converts and be fitted for the work of extending the knowledge of the truth among their countrymen.

"Twenty girls were in the (American Mission Girls') school (at Ahmednagar) in 1839, and the subjects taught were Scripture, reading, writing, arithmetic and sewing. These first girls were of necessity Hindu girls, and their number increased until about 1842, when several of the girls asked for baptism. When three of these girls were actually baptised, their relatives and friends tried to take them away by force. An appeal to a magistrate resulted in a decision that the girls of thirteen and upwards might choose for themselves. On account of the alarm among the parents, many girls were taken from the boarding school while the girls' day schools were for the time being broken up."¹

The attitude of Government authorities in the latter half of the nineteenth century is therefore intelligible. They preferred to move along the path of sure success in boys' education and to await the day when public conscience had been roused and Government was actively pressed to supply greater facilities for girls' education. This happened only in the last decade.²

Men and women in India who are now about 60 years old have witnessed a silent revolution. In their childhood the number of girls at school was increasing, while active opposition was perceptibly changing into passive apathy. In their youth passive apathy was changing into active sympathy, which in their old age has been transformed into enthusiasm. Twenty years ago they planned for compulsory education for boys only, later they legislated for both, and now they would enforce it with greater rigour in the case of girls. Twenty years ago it was a question of offering equal opportunities to boys and girls in securing education, now there is the growing realisation that an educated mother is better able to mould the future of a family than an educated father. It has been a great misfortune that at the very time when this change was becoming manifest, Government was seriously handicapped, first by the War, and then by world depression and financial stringency.

Disparity in the Education of Men and Women

The defects of modern education in India are widely criticised, but, curiously enough, there has been little criticism of the disparity

¹ From a booklet (page 4) published by Miss C. H. Bruce, the headmistress of the American Mission Girls' High School, Ahmednagar, on the occasion of the century celebrations of the school in February 1938.

² "The spread of literacy amongst men only will do little to secure the atmosphere of an educated and enlightened home, and the existing disparity between the social outlook of the man and the woman will only be increased. National and social reasons all point to the necessity of adopting, wherever possible, the same policy for girls and boys, and we are satisfied that in many places public opinion strongly favours the application of compulsion to girls."—*Hartog Committee's Report*, page 171.

between men and women in educational facilities. A hundred years ago families were either educated or uneducated. In educated families women as well as men could read and write and attained similar standards of culture. In uneducated families neither men nor women could read or write, and they also stood on a level. Subsequent to 1850, however, there has been an increasing number of families, in which the males are all highly educated and the females are barely literate. The wife is thus seldom able to share the ambitions and aspirations of her husband, who in consequence has to lead a dual life. Fortunately the sacred tie of marriage is regarded as inviolable in India and has so far protected such families from ruin, but in recent years there have been a few unhappy cases of desertion, and it is feared that they will grow in number unless vigorous steps are taken to remove the disparity between the education of men and women.

Ten years ago, the Indian Statutory Commission—known as the Simon Commission—was appointed to inquire into the political, social and educational progress of British India. That Commission itself appointed a sub-committee—known as the Hartog Committee—to review and report on educational progress. The Hartog Committee's report was submitted as an interim report of the Simon Commission to the British Parliament in September 1928. The report devotes a chapter—Chapter VII—to reviewing the education of girls and women, and most unerringly points to the fact that all efforts to extend education have increased the already alarming disparity between the sexes in education.

The Committee learned from the quinquennial reports of the different provinces that, in the years 1922-7, there was an increase of over 400,000, or 30.6 per cent, in the number of girls at school, which compared favourably with an increase of 184,000, or 15.9 per cent, in the previous quinquennium. Encouraging as these figures were, they were not such as to justify optimism for the future, for the percentage of girls at school to the total female population in 1927 was only 1.5, as against a percentage of 6.9 in the case of boys.¹

"Between 1922-27," wrote the Hartog Committee, "the increase in the number of girls under instruction was over 400,000, or 30.6 per cent, a very substantial increase, but in the same quinquennium the increase in the number of male pupils was 2,400,000, or 37.1 per cent, thus the difference between the number of boys and girls at school, already great, was increased by two millions. In British India, only 10 per cent of the girls of school-going age attend school, the figure for boys is four times as high.

"The disparity, and the growing disparity, between the figures for boys and girls is even more significant than appears at first sight, for it increases as we go up the educational ladder, starting from the lowest primary class. In the primary stage, taken as a whole, the number of girls is one-fourth of the number of boys. But the pupils in Class IV of girls' schools form only 5.6 per cent

¹ *Hartog Committee's Report*, Table LXXI, page 147.

of the total number in Classes I to IV, whereas in boys' schools the corresponding percentage is 9.1

"Again, in the middle schools for boys the number of pupils is 18 times as great as in the corresponding schools for girls, and in the high stage it is 34 times as great"¹

The Hartog report shows that the total direct expenditure on boys' primary schools in 1917, 1922 and 1927 was Rs 251.6, 433.5 and 592.2 lakhs² respectively. In the same three years the total direct expenditure on girls' primary education was Rs 41.6, 75.6 and 103.0 lakhs respectively. There was thus the same percentage of increase in the total direct expenditure on primary schools for boys or girls, namely 250 per cent, but the actual amount of increase in the case of girls' schools was only about one-sixth of that for boys' schools. The Hartog Committee took note of this fact as well as the attempts at camouflage on the part of educational officers. On page 149 they remarked in a footnote "In order to show that girls' education is not being neglected as compared with that of boys', figures are sometimes presented showing the relative percentage increase of expenditure on girls' education as compared with that of boys'. In some cases, though by no means always, the percentage of increase is greater for girls than for boys, and this may lead to the inference that the girls are being unduly favoured. The inference would obviously be false, because the female population is approximately the same as the male and the starting-point for the girls is far behind."

The effect of this disparity has been that, while the literacy figure for males in India is about 130 per mille, that for females is only about 20. Unless special effort is made, not only to remove this disparity, but also to evolve a well-planned scheme of education for adult women, the social and economic progress of rural India will be retarded for many years. Fortunately, there are now clear signs of an awakening.

A curious result of the policy of the Indian and provincial governments has been that India has unconsciously supported the practice of co-education, particularly at the secondary stage.

In the absence of a girls' high school, Government or aided, parents have sent their daughters to boys' high schools, so much so that a very large proportion of the girls reading for matriculation examinations of Indian universities are attending boys' high schools. In Poona, a boys' high school had so large a number of girl pupils seeking admission every year that the managers created a separate division for girls in each standard, and these divisions eventually formed the nucleus for a separate girls' school. If only the provincial governments can liberally help new girls' schools in the next ten years, the bigger towns at least will have an equal number of girls' and boys' schools. The day is gone when the son was sent to a high school and the daughter was detained at home for domestic

¹ *Hartog Committee's Report*, pages 147-8

² A lakh = 100,000 rupees

work. Parents are now anxious to give the same education to their sons and daughters, and for every brother attending a boys' school there will soon be a sister attending a girls' school, provided that there is requisite provision for all.

One of the major obstacles in the way of girls' education has been the custom of early marriage. Parents were anxious to get their daughters married before they attained the age of puberty, that is, before they completed their fourteenth year, and a married girl seldom went to school. This obstacle is now fast disappearing. Educated boys are now reluctant to marry uneducated or half-educated girls, and parents are thus compelled either to keep their daughters unmarried or to continue their schooling. What little unwillingness may still be lurking will soon be removed by the operation of the Sarda Act,¹ which has made it a penal offence to marry a girl who has not reached the age of 14.

Prospects for the Future

The year 1936-7 was a year for the quinquennial reviews on education. The few which have already been published are optimistic in respect to girls' education, as can be seen from the following excerpts.

The Punjab "The total expenditure on education from various sources during the period under review has increased by Rs 11,27,069 and more than half of the increase, viz, Rs 6,26,103, has been utilised on girls' education. There has been marked evidence, not only of a decrease in the apathy of the parents with regard to the education of their daughters which was formerly so conspicuous, but of a very definite and widespread desire on their part to get them educated. At the same time these have been years of disappointment, because, owing to financial stringency, funds have not been available for expanding as rapidly as was desirable and also possible."

Assam "Every report on education in India stresses the need for funds for girls' schools and colleges, and above all for training schools for women, but up till now this branch of education has been very definitely neglected. It is hoped that the new Government will take a different view of their responsibilities towards the women of the Province. That out of a total budget of Rs 33,998,000 only Rs 3,21,765 is allotted for the education of the women and girls of the Province shows a complete failure to realise the importance to the nation of raising the standard of literacy of the women to the level of that of men. Happily there are signs of an awakening of the public conscience, to which I think the Sarda Act, though it may have appeared at first to have failed to achieve its objects, has contributed very materially."

The United Provinces "The impetus given to girls' education during the last quinquennium gathered momentum during the quin-

¹ The Act is so named after Rai Bahadur Harbilas Sarda, who moved the Bill, which eventually was adopted by the Legislative Assembly and passed into an Act.

quennium under review. In fact, girls' education has now gained the first place for consideration in all schemes of expansion. Compulsory primary education for girls has been started in three municipalities and by two District Boards in rural areas, and the innovation has been well reviewed. It is recognised that all improvement in village life depends ultimately on the village woman, unless she is educated there is small hope of attracting and retaining children in school and smaller hope of economic and domestic betterment. Better living in the village depends on better education of the village wife and mother."

In the United Provinces, as in the case of the Punjab, of the increase in the total expenditure on education (Rs 14,36,157), about 50 per cent (Rs 6,49,630) has been on the education of girls.

The Central Provinces "The percentage of girls under instruction in relation to the total female population of the Province was 1.07 in 1936-7, as against 0.8 in 1931-2. The Inspector of Schools, Nagpur, reports that the percentage of girls under instruction in relation to the school-going age has risen from 3.6 to 4.3 and that on the whole there has been an all-round improvement in girls' education."

The Problem of Women Teachers

Foreigners ignorant of the realities have often complained about the paucity of Indian women for the professions of nursing and elementary school teaching, which in Western countries are largely the monopoly of women. They would not have made such a complaint had they calculated the possibility of obtaining the requisite number from among the less than 2 per cent of girls and women who have achieved literacy or who can at least read a printed page. Imagine a village with about one thousand population. In this village not more than fifteen women can read and write, and not even two have received an elementary education. A woman teacher for this village has therefore to be imported from a town nearby, but among the qualified women of such a town (about two dozen in a town with 5,000 souls) it is difficult to find one who would risk a lonely life in a village. It is not, as some believe, a problem that can be solved by improved conditions of service and by providing residential facilities.¹ An adequate number of women teachers can only be obtained when better educational facilities for women have been provided. In the larger towns, which have a comparatively large proportion of educated women, a number of trained women are already without employment. The output of trained women teachers in these towns is more than can be absorbed by the local girls' schools, and in the boys' schools they are not employed, except

¹ The remedy lies in offering a salary sufficient to attract women of better educational qualifications for training, by largely employing village women who teach a village school and by the women inspectors undertaking the responsibility for finding suitable homes for them in villages.—Dr Muthulaxmi Reddi's note attached to the *Hartog Committee's Report*, page 374.

possibly for the lowest classes. This is partly due to the inherent prejudice against women teachers in boys' schools, but it is also due to the fact that the women teachers have often received education inferior to that received by men teachers,¹ and the school managers are naturally unwilling to displace men by women with inferior qualifications. The future administrator, therefore, who desires women to receive their due share in the teaching profession has a twofold problem to solve. He has to bring more girls to school, he has also to educate a good proportion of them to a high standard.

Private Enterprise in Women's Education

The story of women's education in India is largely one of private enterprise. The earliest pioneers in girls' education were Christian missionaries. A girls' high school in Bombay and another in Ahmednagar have celebrated their centenary during the last seven years. The former is conducted by the Scottish Mission, and the latter by the American Marathi Mission. When Mr Bethune was trying his experiment in girls' education in Calcutta, a flower merchant's wife was maintaining a small girls' school of her own in Poona.² Thirty-five years later, Poona witnessed the rise of a private girls' high school—the High School for Indian Girls—which is one of the best schools of the Presidency. The Alexandra Girls' School of Bombay is another private institution of long standing. In fact, there is only one girls' high school in the Presidency conducted by Government, the rest are all private institutions. The conditions in other Presidencies are probably similar, and an account of private enterprise in girls' education would form a valuable part of the history of modern Indian education.

One of these private efforts deserves special mention. In or about 1891, Mr D. K. Karve, who had just joined Feigusson College, Poona, as a professor of mathematics, was moved by the hardships of the young widows of advanced communities, who were not permitted to remarry and who had, in the absence of education, to lead a life of dependence. Professor Karve accepted some of these widows as boarders in his home and tried to educate them. It was no easy

¹ In the Bombay Presidency the vernacular school Final Examination is taken by girls after six years' schooling, but boys have to spend seven years in a school before they can appear for the examination.

² "We saw much else in Poona to gratify us. One young man named Joti Govindarao Phuley, a gardener by caste, but of a certain independence of fortune, deserves to be particularly noticed, and possibly the Board might think it well to honour him by the gift of a medal, or by some other distinction. This young man has not only formed a female school, which he teaches gratuitously for four hours a day, but he has also trained his wife, by three years' careful tuition, to assume the office of schoolmistress, and the latter has a normal class of three other young women, whose husbands, Brahmin schoolmasters, are equally enthusiastic in the cause."—*Extract from the Report of the Board of Education at Bombay for the year 1851-2, quoted in Appendix C of the Report of the Select Committee of the House of Lords on the Government of Indian Territories* (page 360).

task. These widows, who were twenty years of age or older, had to begin their education from the study of the alphabet. But Mr. Karve succeeded where others would have failed. He had to face ridicule and misrepresentation of his aims and objects, but he also received warm support and encouragement from appreciative friends. In 1901, his boarding school included less than a dozen pupils, but the success of the institution was already assured. It grew rapidly, and the small class of adult women was soon replaced by primary and secondary schools as well as by a class for the training of teachers. The inmates of the institution were provided with free lodging, boarding and tuition, and the entire expense was met by contributions from the public. In 1915, Professor Karve heard of the Women's University of Japan and was filled by the idea of starting an Indian Women's University. It was a great venture, private universities being unknown in India. But Mr. Karve would not be deterred by such notions, and in 1916 he launched his Indian Women's University. He soon found a great patron in Sir Vithal Das Thaksey, who made to the University a donation of Rs 1,50,000.

The University is now twenty years old, and, considering the fact that its degrees are neither recognised by the provincial governments nor by other Indian universities, its growth has been encouraging. It has at present four colleges affiliated to it, with 213 students, and in the twenty high schools recognised by the University, over 5,000 pupils are receiving secondary education, 584 girls appeared at the Matriculation, and sixty-three girls obtained this year the first degree in Arts.¹ Although Government have not recognised the degrees of the Indian Women's University, its high schools are both recognised and aided by Government, and the University has often been referred to in Government reports as a valuable educational experiment. The Hartog Report, for instance, describes it thus: "The Women's University at Poona, which owes much to the devotion of Professor Karve, has three affiliated institutions situated in Poona, Baroda and Ahmedabad, with a total enrolment of 40 women. The University has done good work for the higher education of women in the Bombay Presidency. But the absence of recognition of its degrees has naturally influenced the size of its colleges. We understand that the absence of recognition has only been due to an anxiety on the part of the University to avoid control over the curricula and conditions of examinations in colleges."

The University is now striving to secure Government recognition of its examinations and degrees, and it is not unlikely that that recognition will soon be granted. It is, however, doubtful if the Indian Women's University can ever attain the status of other universities in India, for there is a strong feeling, even among the admirers of Professor Karve and his work, that the Indian Women's University is an anachronism. Women students do not now demand even separate colleges for women, much less would they care

¹ There are 1,577 girls in the colleges affiliated to the University of Bombay, and 1,007 girls appeared for the Bombay Matriculation in 1937.

to seek degrees of a university where they cannot measure their talents by comparison with the men students

But there cannot be two views on the great service done to the cause of women's education by Professor Karve's institutions in the last forty years. During this period Poona has been transformed from being a stronghold of unreasoning orthodoxy into a city of women's freedom, and the credit for this change must go to a large extent to Professor Karve. In the last census report Poona was commended for having a high percentage of English literacy among women, and the effects of this achievement can be seen in the changed attitude of the modern girl, who has discarded her traditional shyness and is bent on asserting her rights and privileges. And the history of women's education in Poona is the history of women's education in all large towns in India. Like a stream running down the slopes of a mountain, women's education in urban areas is gathering momentum, once it reaches the plains—the rural areas—it is bound to flow from one end of a province to the other like a mighty river.

Conclusion

It is true that the path of progress is still beset by difficulties. Social prejudices die a slow death, and only after years of perseverance and toil will the changes in towns have their reflection in villages. Poverty and purdah¹ are no mean obstacles, and propaganda supported by legislation alone can overcome them. Again, the provincial governments have to meet a number of demands as pressing as the spread of women's education, and each of them will need huge funds. The ministers of autonomous provinces have now to work out the miracle of collecting the maximum of revenue with the minimum of taxation, and that will test their abilities to the utmost. But if the sun is not on the horizon, there is little doubt that the night has ended, and everyone is expecting wonderful developments within the next ten years in all nation-building activities, women's education included.

M. R. PARANJPE

¹ The "purdah" system which prevails all over northern and north-eastern India has also proved a serious obstacle, but we cannot believe that purdah in itself has actually prevented the education of small girls. Nowhere, except in rare and isolated cases, are girls under the age of 10 in purdah, though parents in some provinces object even to small girls attending boys' schools and to girls being taught by male teachers. The influence of purdah, however, makes itself felt in other ways. For a girl who is to enter purdah when still so young, formal school education is not regarded as necessary. The whole structure of a social system in which purdah is maintained militates against the widespread education of women.—*Hartog Committee's Report*, pages 152-3.

CHAPTER FOUR

SOME ASPECTS OF WOMEN'S EDUCATION IN INDIA

Marriage and the Position of Women

ONE important cause of the fundamental changes which have taken place in social life in India within the last twenty-five years, and are continuing to take place, is the growth and development of women's education. Nor must we forget that the changes which have taken place carry within them the seeds of still greater changes which will not bear fruit until another quarter of a century has gone by.

Although its development has varied from province to province, there is no part of India which has not been influenced by women's education. This fact was very apparent at the last meeting of the All-India Women's Conference. It was an unforgettable experience to see women from all parts of India, including the Indian States, and of every community, discussing questions which, while of interest to every intelligent citizen, are particularly the concern of women. Though members of the conference were not always unanimous, it was impressive to mark how often they were agreed on fundamental issues. One could not but be impressed also by the way in which the business was conducted, by the varied experience represented by the delegates and by the authority with which some of them spoke on the many matters of public interest which came up for discussion. Some of the younger women, in particular, displayed an unexpected maturity of judgment and a vital sense of the duties and obligations of citizenship. Such a conference is a striking indication of what women's education has achieved in this country. For although some of the delegates had been educated in part abroad, the great majority had received their education wholly in India.

The Hindu Polygamous Marriage Restraint Bill

Mr Arthur Mayhew in one of his books on India raised the question as to what would have happened in the social life of India if Western education had been given first of all to women, for as guardians of the ancient culture of the land they were in the early days the strongest opponents to any proposed change in family or social life. But with this conservative attitude the educated woman of to-day has little sympathy. Recently, for example, there have been two bills, both introduced by women, one in the Central Assembly and the other in the Punjab Assembly, dealing with marriage and the position of women. Mrs Subbajayan has introduced in the Central Assembly the "Hindu Polygamous Marriage Restraint Bill." She wishes action to be taken against

"the modern form of bigamy," in which "educated women of respectable classes are marrying men who are already married and whose wives are living and who have no excuse to marry again." The problem referred to is very real in certain circles and is one of the results, regrettable in many ways, of the introduction of women's education. In Mrs. Subbarayan we have a woman who has played a noted part in public affairs, yet she is championing not the cause of the educated woman, but of the un-educated wife whose claims are put aside by her husband when he marries for the second time an educated woman.

Effect of Demand for Educated Wives

In former times the absence of children by the first wife was a recognised "excuse to marry again." But the modern husband who marries an educated woman as a second wife would give as his "excuse" the fact that he had no choice at all in his first marriage, and that in his wife he desires the companionship of one whose education and tastes are similar to his own. The second wife in such a case may be lacking in sympathy and in understanding of the position of the first wife, and one cannot but be glad that Mrs. Subbarayan's bill draws attention to her sad plight. But obviously the solution of the problem which is responsible for the bill is not only the development among educated women of a more sensitive conscience in relation to the un-educated wife, but the postponement of the marriage age and a more rapid spread of education among girls and women so that it may be possible for every educated man to find an educated wife.

Attempt to Reform the "Hindu Dharma and Shastras"

The second bill was introduced in the Punjab Legislative Assembly by Mrs. Duni Chand, who sought to reform the Hindu, Sikh and Jain system of marriage. A critic of the measure characterises it as being in opposition to the "Hindu Dharma and Shastras", and according to a newspaper report "the tone of the debate generally in the Assembly revealed the unbending opposition of orthodoxy to Mrs. Duni Chand's proposed reform." Fifty years ago women could have been counted on to be the champions of orthodoxy and the guardians of the "Hindu Dharma and Shastras." To-day, some at least of them are most critical of their content, and are willing to propose legislation such as no British administrator would have dared to suggest, however strongly he might feel. The new attitude is undoubtedly a result of women's education.

Danger of Gulf between Educated and Uneducated Women

It sometimes seems as if there were danger of a gulf being fixed between the few educated and the great mass of uneducated women. Anything, therefore, that tends to prevent this from happening is a welcome influence. It is a healthy sign of the times that when the

elections took place a year and a half ago for the new Legislative Assembly, the election authorities in Lahore asked if members of the staffs and students of the women's colleges would act as returning officers and their assistants at the polling stations which were set apart for the use of women voters. The experience gained by the students was wholesome, for it brought home to them how very many of the women who had a vote to cast were illiterate, and could not but raise questions in their minds as to the qualities desirable in those who by means of the vote have now so large a share in controlling the affairs of the province.

Similarly, the services of women students were again called for when, a few months ago, the All-India Exhibition was held in Lahore. They then made themselves useful as volunteers on the days when the Exhibition was open for women only.

Effects upon the Individual of Education

A few years ago it was questionable, in some parts of India at least, whether women's education was firmly rooted. Of that there can now be no doubt, and it is remarkable that in recent years it has been progressing most rapidly in the provinces where it was slowest to move in the initial stages. It is probably most firmly rooted and grounded in Madras, but within the last few years it has become very popular in the Punjab, especially in Lahore. It is a random calculation, but there are probably four or five times as many girls preparing for university examinations in Lahore as there are in the city of Madras. But as most of those in Lahore appear as private candidates, on which subject something will be said later, the college statistics for the two provinces give little indication of the true position.

In writing about women's education, one is compelled to give attention to its effect upon the individual and to the consequences which result from the presence in society of the educated women. Mrs. Subbarayan's bill calls our attention to a regrettable situation that may arise. But it must also be remembered that there has come into existence in a few of the larger cities a new kind of home, still rare, in which the educated wife is the comrade of her husband and the friend of her children, and in which a new atmosphere has been created which cannot but find its way beyond the family circle. Also of great importance is the body of professional women who in hospital, school and college, and in other directions as well, are laying the foundations of a new public service and are quietly and certainly helping the new India into being.

It was distressing to hear it suggested recently by a thoughtful Indian man that some educated Indian women very easily slip back into a state bordering on illiteracy. It is probably true that after marriage some of them become so absorbed in their immediate surroundings that they forget for the time being all that lies beyond. But the great majority of educated women are aware that education

has been for them a liberating experience, and they value it chiefly for the social freedom which it brings, while those who are most public spirited delight in the power which it gives them to be of service in society

The Kinnaird College for Women

The Kinnaird College for Women, the oldest college for women in the Punjab, has just completed its twenty-fifth year. It is a Christian college in which two American and two British missions co-operate, and also the Punjab Indian Christian Conference, and it receives grants-in-aid from Government. The college, which grew up out of the Kinnaird High School, became affiliated to the University of the Punjab up to the Intermediate standard in 1913, and four years later up to the Degree standard. Since 1919 it has been sending graduates out into the world, the total number up to date being about 330.

In the decade from 1918 (in which year the college first had four classes) to 1928 there were never more than forty students on the rolls, and sometimes there were less than thirty. The numbers were so small that some of the friends of the college expressed doubt as to the wisdom of keeping it open. But the principal and staff and certain others had an indomitable faith that it ought to be continued, and the experience of the last ten years has justified their faith. From 1928 onwards not only have the numbers yearly increased, but every year the college has had to refuse admission to many applicants. At present there are over 200 students on the rolls.

The students of the college, who belong to every community, Hindu, Christian, Sikh and Muslim, come chiefly from the Punjab, but there are a few also from each of the following provinces: Delhi, the United Provinces, Sind, the North-West Frontier Province, Kashmir and Baluchistan.

The fact that the whole college meets daily in Chapel, and that the resident students have a common dining-room—the only distinction being that some are vegetarian and others non-vegetarian—does much to give the college the sense of unity which is its most precious possession.

The college was housed to begin with in and near the buildings of the school out of which it grew. When, in 1926, it moved to its present quarters near the university playing fields, it was prepared at first to use the rather old bungalows built on the site and later to construct buildings to suit its requirements. But it had only been in possession of the property for a few years when the marked increase in the number of students made it clear to the authorities that a larger site should be secured. Such a site, about 20 acres in extent, was bought five years ago near the canal in a pleasant neighbourhood now rapidly becoming residential. Plans for the new college have been drawn by an architect and sanctioned by the Municipality, and there is every expectation that building operations will begin within a short time. If all goes well, the removal to the

new site should take place in September 1939. The college should then be in possession of two hostels accommodating together between ninety and 100 students, and six members of staff, a staff house for the remaining members of the staff, and an academic building containing a spacious library and reading-room in addition to classrooms and offices. The women of the Presbyterian Church in America are collecting money this year to provide a Chapel for the college, which will be built, it is hoped, either this year or next. There is also a plan for an Assembly Hall to accommodate about four or five hundred persons, but in all probability this will have to wait some years before funds can be found to build it. There is fortunately a large building already on the new site which will provide accommodation for a few years for a common dining-room, for an assembly room until the Hall is built, and for quarters for the use both of day and resident students.

The Need for Financial Support

It is hoped that the Government of the Punjab will provide a building grant, since the only assets are the present compound, worth, according to a conservative estimate, about Rs 2,00,000, and about Rs 30,000 in the bank. In addition, the campaign carried on in England on behalf of Christian colleges in India has resulted in a grant of Rs 56,000 to Kinnaird College. Five years ago there was a debt of Rs 1,00,000 on the site, but owing to this and other gifts it has been possible to wipe off the debt and to accumulate a certain amount of money. The College authorities are prepared to borrow again, though not to the extent of a lakh of rupees, and it is hoped that gifts from Indian friends in addition to a Government grant will make the new college possible.

Staffing and Curriculum

There are now twelve members of the resident staff, Indian, English and American, and several who are non-resident. This staff, with the help that the new buildings will afford, should do much to make the college still more efficient in studies and games, and in all the other activities which are carried on by means of college societies.

The college rejoices in the friendliness and goodwill of the university and Government and of the more liberal sections of every community. The growing number of Muslim students on the college rolls is a cheering indication that many Muslim fathers want something more than a purdah education for their daughters. Many of them observe purdah outside the gates of the college, but not within its walls, although there are several men on the staff. For those Muslims who prefer purdah—and this is the greater number—there is the Lahore College for Women, a Government College, where the arrangements are such that all those who wish to observe purdah may do so.

The college authorities hope that within a few years, if the necessary funds can be secured, science may be introduced. At present the only science subjects taught are mathematics and geography. Most educationists would agree that in this age a college which is not equipped to teach science is an anomaly. The great majority of the students have never seen a microscope or a Bunsen burner. This means not only that their education is one-sided, it means also that they are incapable of understanding much of the general literature of the day which is full of references to scientific methods and to the discoveries of science. It is most desirable that the college should be equipped to teach biology, physics and chemistry, at least up to the Intermediate stage, so that it might admit students who hope to go on afterwards to the study of medicine. As the Lady Hardinge Medical College in Delhi has recently given up its pre-medical course, and the Women's Christian Medical College in Ludhiana has become affiliated to the university for the first professional examination in medicine, it is more than ever desirable that Kinnaird College should have a share in preparing such women students as hope to enter the medical profession.

Old students very frequently ask if the college will consent to prepare students for the M.A. degree in at least a few subjects. Many of them who would like to continue their studies after their B.A. degree are still kept from doing so because it means joining a men's college. But it is unlikely that the college will develop in this way, for it would mean a considerable additional expenditure for a limited number of students. The Forman Christian College is planning to move out from the city of Lahore to a site near that of Kinnaird College, and it may not be far distant before co-operation may be possible between the two colleges in post-graduate work.

Recommendations in the Annual Report

The Annual Report on the college for the year ending in March 1938 contains the following paragraph: "The college was inspected in February by a Committee appointed by the university. The closing words of the Inspection Committee's report are interesting: 'We recommend that a building grant of one lakh of rupees be made by Government to enable the college to provide on its new site all the buildings and equipment necessary to maintain its high standard as one of the leading colleges in North India.' When the Syndicate considered this report it was pointed out that it is not the policy of the University to recommend to Government the making of grants-in-aid to colleges. But the recommendation is not without significance."

Higher Education in the Punjab

The problems facing women's education differ from province to province, but as the present writer is most familiar with those of the Punjab attention will be confined almost entirely to them.

From the time when women's education was first introduced, a large proportion of women students in South India have looked forward to entering professional life and to being in part breadwinners for other members of the family. There is, therefore, a comparatively large body of professional women in the south, some of them with many years' experience, who by means of their work are making a very definite contribution to the welfare of society.

But here in the Punjab where money is more plentiful and where those who have it are more inclined to spend, it would be safe to say that most girls, though not all, come to college because of social, not economic pressure. Their parents know that if a good marriage is to be arranged for their daughters they must receive a college education. A few years ago a girl was married during her second year at college. One of her teachers asked the young bridegroom if his wife would continue her studies after the Intermediate stage, and received the answer "If I am an M.A., my wife must at least be a B.A." It is this sort of feeling in the Punjab which has been responsible for sending many girls to college within the last ten years. The province was slow to move in the matter of women's education to begin with, but it is less conservative than other provinces and is now moving much more quickly than other parts of India where women's education has a longer history.

Need for Affiliating Colleges with University

One result of this social pressure was that when the Lahore College and this college refused admission to a fairly large number of applicants, Government opened an Intermediate College for women in Amritsar, and after a year or two another in Lyallpur. But it was in Lahore that the desire for college education was strongest, and thus within the last seven or eight years there have sprung up in Lahore a number of "private" colleges for women. These colleges are not affiliated to the university, their students appear in university examinations not as "college" but as "private" candidates, thus taking advantage of a concession made by the university years ago by which women were exempted from keeping terms in any college, and might appear in university examinations without having conformed to the usual regulations. Several of the men's colleges in Lahore, and throughout the province, have thrown open their doors to women students, and a few women have taken advantage of the opportunity thus provided, but public opinion is still opposed to co-education. And most parents, if compelled to choose between sending their daughters to a first-class men's college or to a third-class "private" college for women would choose the latter. One obvious remedy for this situation would be that the university should withdraw the concession and insist on all women's colleges being affiliated. But although the matter has been brought on more than one occasion to the notice of various university bodies, nothing to speak of has been done. This seems most regrettable, for it

gives the impression that standards need not be high where women are concerned, and it is very likely to give women's education in these early days a wrong direction. It is also clear that if the university should decide within a few years to withdraw the concession, it would be met by the strong opposition of vested interests.

Why does the university not act in the matter? Probably because it is reflecting the general feeling that girls are not being educated "for service", (i.e. with a view to entering any of the public services) but, as one father expressed it, "for culture", and that it is unnecessary for them to approximate to the standards set for men whose position in life may depend on the results of a competitive examination. There must in these days be a gap between a girl's leaving school and her marriage. To spend the interval in college is considered in every way respectable. The girl is learning something and enjoys all that the new life brings her. Nor must we overlook the fact that this new arrangement brings her years of girlhood such as her mother never had.

Need for a School of Domestic Science

But it will be easily seen that the ordinary arts or science curriculum is not, for girls such as have been described above, the best preparation for married life, and one cannot wonder that for years the wish has been expressed that domestic science should form part of the university course. It is, however, very doubtful whether such an addition to the curriculum would solve the problem which the present situation presents. For if domestic science is to be taught up to a university standard it must have a sound scientific foundation, and it is doubtful whether this would be acceptable.

The fundamental cause of the present problem is that there is nothing at present for a girl to do on leaving school but to go on to college. If a school of domestic science could be opened under such auspices as would win for it respect, and with a staff who could command confidence, it might meet with success, if it knew how to combine what are still called in America the "liberal arts" with the kind of education that a young wife would find directly useful in her new home. Or it might be possible for such an institution to give a shorter practical course in the domestic arts and crafts to students who had already passed the Intermediate or B.A. degree examination.

Many students continue their studies after having spent four years at college. An increasing number of these are prepared to consider teaching as a profession, but in many cases these post-graduate studies, in whatever realm they may be, are, to use the phrase already quoted, "for culture".

A post-graduate training college for women was opened by Government several years ago, but unfortunately some of those who are admitted to it seem to have no real intention of taking up teaching as a profession. They expect to be married, but if they should be left

as widows, or if their husbands should suffer from unemployment, the teaching qualification might be something to fall back on. Unfortunately, their admission may exclude those who have a real desire to become teachers.

It is interesting to note that those who are most anxious to see education in domestic science introduced are men rather than women. The Indian woman who has herself been educated and has experienced the freedom which education has brought her is a little suspicious of any suggestion which might rob her or her daughter of this new-found freedom. She knows besides very little of the content of courses in domestic science which are to-day followed in the West, and which would have to be adapted to the needs of this country before they could be suitable. This process of adaptation will not be easy, and only intelligent Indian women could achieve success in it. But the time may not be far distant when some of them will be prepared to take up this task with interest and enthusiasm. They may feel at present that the Indian woman has had too much domesticity, but the swing of the pendulum will come.

Conclusion

Every student who is brave enough to strike out in a new direction, into social service, for example, or physical education or business, is a matter for satisfaction, for new avenues must be opened up. If training of different kinds were introduced, it is possible that the numbers in the women's colleges would become smaller than they are at present. But this would be an undoubted advantage, as the students could then be counted on to have a real preference for academic pursuits.

The next ten years cannot but be of the greatest importance in the development of women's education. Here in the Punjab, where so many and so great changes have taken place in so short a time, it is safe to say that only the most unusual presence and vigilance on the part of those chiefly concerned can save it from the pitfalls that lie ahead.

J. T. McNAIR

CHAPTER FIVE

A CRITICAL EXAMINATION OF THE EDUCATION OF WOMEN

The Existing Situation

THE education of women is, in many ways, the most pressing as well as the most difficult educational problem in India. Quantitatively, its magnitude can be realised by the fact that in British India alone there are about 13,000,000 girls of school-going age for whose education there is now no provision¹. Only 16 per cent of the girls of school-going age (between the ages of 6 and 11) as against 50 per cent of the boys, are actually in attendance in schools, most of which are but poor apologies for educational institutions. If the Governments were seriously to tackle this problem, they would require more than 300,000 additional teachers, yet only 1,500 teachers are now being trained each year. Again, the education of girls is characterised by the same wastage which arrests the spread of literacy among boys. Indeed, it is even more acute because early marriage and other social factors are responsible for the premature withdrawal of the majority of girls from school. Not more than 13 per cent of the girls joining the first class actually complete the primary course. This means that in the case of more than 85 per cent of the girls at school there is no certainty whatever that permanent and effective literacy is being achieved. The strong presumption would be that a very large majority of them are unable to read or write, and, what is more, in the absence of village libraries, the remainder are likely to relapse into illiteracy. The financial implications are equally distressing. The amount of money now spent on girls' education is only 14 per cent of the meagre sum spent on boys' education. The total cost of providing schooling for girls of educable age who are not at school would, at the rate of Rs. 10 per girl, approximate to £10,000,000 per annum.

Unfortunately, there has not been so far a frank realisation of the vital urgency and need for courageous action. The first authoritative pronouncement in this connection was made by the Hartog Committee, who laid down that in all schemes of future expansion priority should be given to girls' education, but, in actual fact, effect has not been given to that recommendation. Signs, however, are not wanting that the official view is undergoing considerable modification, while educational authorities are becoming more keenly alive to the need for rapid expansion.

Apathy of the General Public

On the other hand, the general public has failed to evince sufficient keenness about the education of girls. There are still sections

of the people who, on pseudo-religious grounds or from conservatism, are actively opposed to all education for girls, and there are others who are at best apathetic. But we cannot dismiss this opposition as unworthy of consideration, for it has to be recognised that the type of education generally provided for girls has failed to capture the imagination or win the goodwill of the people at large. It has been, generally speaking, a poor copy of the education imparted to boys, reproducing faithfully, and sometimes exaggerating, its objectionable features. It has been too bookish, too academic, too remote from the environment and cultural needs of the people, it also lays the same undue stress on the study of English at the cost of other useful subjects and skills, and it sacrifices, in the interest of pseudo-literary culture, the real objectives of a harmonious, comprehensive and psychologically suitable education. In rural areas, in particular, parents are generally of the opinion that the education of girls will not do them much good, largely because there is no outlet in the life of the average village for the kind of book knowledge now acquired by the girls. Their schooling does not adjust them successfully to their environment, nor does it enable them to become better villagers. In the larger towns and cities, however, there is an increasing demand for the education of girls, which gives them a better social status and also, to some extent, adds to their value in the marriage market. But here, too, the results have been generally disappointing in that higher and secondary education has tended to produce what some people slightly call "society butterflies," whose values are marred by their education and who are obsessed by an unwarranted sense of superiority. They are unable, and often unwilling, even to do the ordinary work of the household. Many of them regard such work as derogatory and develop, instead, extravagant habits and interests. This is not surprising since whenever education becomes divorced from the currents and concerns of national life, it becomes superficial rather than life-giving. Parents, therefore, who find their educated girls unable to deal with the problems of domestic life and acquiring expensive habits, become prejudiced against such education and are reluctant to keep them at school. Moreover, while in the case of boys the attraction of the services has led parents to condone the shortcomings of the system and to accept it purely from utilitarian motives, there is no similar compensation in the case of girls. Thus, the hindrances in the way of girls' education have been twofold—the lack of sufficient facilities, and the poor, unattractive and unsuitable education that is provided. Unless the problem is attacked on both fronts—expansion and improvement—it will remain unsolved and insoluble.

Its Social and Cultural Consequences

The repercussions of this situation on national life have also been disastrous. In the first place, the neglect of girls' education has

greatly retarded the progress of boys' education, in a country where the position of the mother is supreme and unchallenged, an uneducated mother can, and does, prove to be a great obstacle in the education of her sons. She can neither provide for them good early training, nor is she anxious to send them to school. Being herself ignorant of the benefits of education, she looks upon the period spent in schooling as so much waste of time. Secondly, if education is to be an instrument for the dissemination of culture, in the true and abiding meaning of the word, it must permeate the homes of the people, not remain merely an affair of books and schooling, which is a somewhat superficial accretion. This process of raising the standard of culture in the homes can be effective only when the women have been well educated, for it is only they—and not the busy, overworked, harassed men, most of whom are either looking for jobs they cannot get or discontented with the jobs they have got—who can assimilate culture into everyday life and render it a gracious influence in the training of their children. Psychologists are agreed that the first five or six years of a child's life are often decisive in the formation of his character and personality, they determine, generally speaking, whether he is to be a healthy or a sickly child, frank, open and active or secretive, repressed and inhibited in his mental and physical reactions, yet this is precisely the period which the child spends at home under the influence of his uneducated mother.

Serious Effects of Unequal Education

There is a further consideration. The present disparity between the educational progress of boys and girls has had undesirable consequences. If home life is to be happy and harmonious, it must be built up on certain common cultural values and assumptions, and there should be a certain affinity of outlook between husbands and wives so that they may view their everyday problems from a similar angle of vision. But the present educational situation has tended to abolish this essential prerequisite to mutual understanding and fellowship. A majority of the men who receive English education are apt to lose contact with, and a proper appreciation of, their own cultural traditions and heritage. They tend, therefore, to lose the capacity to value at their proper worth some of the finest qualities that are innate to Indian womanhood. On the other hand, the large majority of girls have, as we have already seen, no opportunities for any kind of education, even the most elementary. Thus, in the year 1935, only about 6,000 passed the high school or any higher examination, and only 13,000 the middle school examination, which corresponds, at best, to the completion of the full primary school course in England. Set against the total female population of over 13,000,000 in India, these figures tell their own sad tale. Consequently, there is a wide divergence in the cultural outlook of educated men and their wives with the result that a happy home life and the proper care of children become difficult, if not impossible,

and cultural conflict and disharmony are prevalent Unless the education of men and women is visualised as complementary and as an inseparable aspect of one and the same national problem, the situation will become still more acute

Some Practical Difficulties

The foregoing facts reveal both the urgency and the difficulties of the problem, which requires far-sighted courage and vision for its solution The scheme of reconstruction will have to deal not only with the provision of more generous facilities and the overhauling of the syllabus, but also with certain other obstinate and obstructive features of the present situation Most of the primary schools are either one-teacher schools or are very inadequately staffed Moreover, more than half of the teachers have received no training whatever, while the remainder have received only a single year's unsatisfactory and incomplete training The school buildings are usually cramped and ill-ventilated, equipment is meagre, there are scarcely any facilities for games or outdoor activities The question of conveyance presents yet another obstacle, as many girls of the middle and upper classes observe "purdah" and are not prepared to go to school unless suitable conveyance is provided Moreover, in rural areas, schools are located far apart—"a school for every village" is still a far cry—and girls often have to travel long distances before they can reach the nearest school The teachers also are poorly paid, nor do they occupy a position of prestige and influence in the village community It is difficult, therefore, for them to overcome the indifference to education among parents

Hopeful Signs of Future Progress

There are, however, signs of increasing interest in, and awareness of, the importance of girls' education What is even more hopeful, there is a great awakening amongst the women themselves The credit for this awakening goes primarily to the political movements which have drawn thousands of women into their scope and have thereby widened their interests Consequently, their civic consciousness has been awakened with a rapidity which no social or educational movement could, by itself, have achieved, and they have shown increasing interest in the problems of educational reconstruction The All India Women's Conference has been an active protagonist in the cause of educational reform and has been pressing for the adoption of a progressive policy The Governments have also shown increased interest in the matter and have appointed committees to consider ways and means of improvement

Recommendations of the Central Advisory Board

In 1936, the Central Advisory Board of Education appointed a committee, including women members, to consider the question

of primary education. The committee made important recommendations, of which the following are of special interest

(i) Girls' primary education should have a prior claim on public funds where provision for both boys and girls cannot be found

(ii) With a view to raising the standard of women primary school teachers, a minimum preliminary period of at least eight years, followed by a two-year training course if necessary

(iii) Only women teachers should be employed in primary schools for girls, and teaching in infant classes in boys' schools should, when possible, be entrusted to women teachers. For this purpose the employment of trained married couples should be encouraged, and special efforts should be made to train girls who will return to their own villages for service in schools

(iv) In order to attract children to school and to ensure more regular attendance, closer contact and co-operation between inspecting staffs, teachers and parents should be encouraged, instruction should be given in training schools as to the best methods of gaining contact with parents

(v) In considering schemes for compulsion, only those which include proposals for girls as well as for boys should be sanctioned, and where compulsion already exists for boys steps should be taken to make similar provision for girls

(vi) One of the chief causes of wastage at the primary stage being the large number of incomplete schools, all girls' schools should ordinarily be full primary schools with a minimum of two teachers or a maximum of forty pupils on roll per teacher

(vii) Primary education in girls' schools in rural areas should be free

(viii) Co-education at the primary stage should be the ultimate aim in small rural areas, but where the numbers are large separate schools are desirable. Co-education in backward areas can only be achieved by the appointment of women teachers in mixed schools

The Curriculum

The question of the curriculum has also been engaging the attention of Education Departments. The Central Advisory Board of Education has appointed a committee to suggest modifications in the existing syllabuses. The Committee agreed with the opinion expressed in the Hadow Committee Report that there is no need for a separate curriculum for girls, but there should be a difference in emphasis on the *content* of the curriculum. This recommendation does not necessarily conflict with the view expressed in a preceding paragraph that education should be adjusted to the special needs and requirements of Indian girls. As the framework of the education provided in rural and urban areas is the same, though the details of the picture may be varied to meet special needs and problems, so also is there a considerable area over which there is identity of interest between girls and boys. In the formation of

the detailed curricula and schemes, however, in the choice of types of crafts and handwork, in the selection of the material in various subjects, there is ample opportunity for adjusting the curriculum to the needs of girls.

The curricula should therefore be scrutinised with a view to ensuring that the large majority of girls shall be trained to live useful and effective lives in their homes. The tendency to make education too bookish and academic, which at best sacrifices the interests of the large majority to those of a small minority, should be resisted, and education should be brought nearer to the concrete realities of everyday life. There is general agreement in educational circles that certain forms of handwork and domestic crafts such as cooking, sewing and embroidery should find a prominent place in the curriculum, and that English should not be taught at the primary stage. There is also a growing recognition of the fact that the curricula should be visualised primarily, not as a number of separate subjects to be taught, but rather as a series of interesting and healthful activities and experiences through which girls may learn to adjust themselves to their environment and, in the course of that process of adjustment, to acquire the requisite knowledge.

The tendency to make the education of girls too academic and bookish should, and can, be resisted more easily than in the case of boys. The education of the latter is bound up with university and Service requirements, which often demand graduates of the ordinary academic pattern. But the education of girls can be so reorganised and modelled that it will become more suited to their needs and psychology, more self-contained and less dependent on the demands of higher education.

Essential Content of Syllabus for Girls

Such a *basic* education for girls (to use an expression which the Wardha Education Committee has contributed to educational terminology) will lay special stress on the following aspects:

(i) The mother tongue should be studied in such a way that it becomes an easy, effective, fluent and, in many cases, graceful medium of self-expression both in speech and writing, and the habit of reading for pleasure should be cultivated. A great deal of the present ineffectiveness in education, both for boys and girls, is to be attributed to the fact that the teaching of the mother tongue is defective, so that children rarely experience the joy of spontaneous self-expression, nor do they acquire the capacity for clear thinking and expression which is the basis of all subsequent study in school.

(ii) The study of arithmetic should be helpful to the girl in her everyday life, and special attention should be paid to the proper keeping of her budget and household accounts.

(iii) History, geography and elementary civics should be co-ordinated so that a girl can understand her social environment and also something of her wider civic obligations and duties.

(iv) The elements of general science, physiology, hygiene and dietetics should be taught, not as systematic subjects of formal study, but as an introduction to a practical understanding of everyday problems

(v) Crafts and handwork of various kinds, which are suited to the needs of different localities and to the financial resources of the schools, should be included in the curriculum. Even where there are no resources for the purchase of the necessary equipment, some forms of handwork can be introduced by the active co-operation of children and parents

(vi) Physical training should not only ensure good health, but should also stimulate ease and grace of movement

The Problem of Compulsion

Another question connected with girls' education is that of introducing compulsion at the primary stage so as to ensure effective and permanent literacy. The importance of this measure is emphasised by the fact that, as already pointed out, the educational machinery is working only with about 15 per cent efficiency. The persistence of early marriage and other social customs, together with the poverty of many parents, are not sufficient to account for the apathy of parents, which must be attributed rather to the weakness of the appeal made by the schools. If the curriculum were really suited to the needs of the girls and if the school once entered more fruitfully into their lives, enrolment would grow apace and compulsion would be used for ensuring regularity of attendance rather than for driving unwilling children to unwelcome schools. It is significant that the suggestion has been made that, as a first step towards enforcing widespread compulsion, the State should be content with insisting on attendance for a fixed number of years on all those who voluntarily join school with a view to their remaining at school until literacy has been attained. The opinions of the Hartog Committee are therefore pertinent

"The spread of literacy amongst men only will do little to secure the atmosphere of an educated and enlightened home, and the existing disparity between the social outlook of the man and the woman will only be increased. National and social reasons all point to the necessity of adopting, wherever possible, the same policy for boys and for girls, and we are satisfied that in many places public opinion strongly favours the application of compulsion to girls. We recognise that owing to social and economic conditions compulsion for girls must necessarily be of slower growth than compulsion for boys, but we are of opinion that in every general scheme for compulsion, in areas which are favourable for the development of girls' education, an attempt should be made to include at any rate the majority of the girls of school-going age in the scheme"¹

¹ Page 174

The Committee further observed

"Deliberate and unremitting efforts to overcome the obstacles, the formulation of policy with careful adjustment of means to ends, and a generous provision of money, institutions and personnel to make up for lost time—these are clearly indicated as the main tasks of the immediate future. Nor can success be attained without the closer association and co-operation of women themselves which are now available in growing measure. The whole case for women's education rests on the claim that education is not the privilege of one sex, but equally the right of both, and that neither one sex nor the other can advance by itself without a strain on the social and national system and injury to itself. The time has come to redress the balance, and we believe that the difficulties in the way of women's education are beginning to lose their force and that the opportunity has arrived for a great new advance. We are definitely of opinion that, in the interest of the advance of Indian education as a whole, priority should now be given to the claims of girls' education in every scheme of expansion."¹

The Future Prospect

It is depressing that, in spite of these specific recommendations, no striking progress has yet been made. Compulsion still remains a distant dream, and there has been no generous provision of money for the formulation of any bold policy of expansion. It is true that during the greater part of this period the provisions have suffered from financial stringency, while the central resources have been overburdened by military expenditure, with the result that all schemes of expansion have been rigidly arrested. But, even after making allowances for all these considerations, it is not possible to exonerate the authorities from all responsibility in the matter. More recently, however, with the establishment of provincial autonomy, and particularly with the coming into power of Congress Governments, primary education has received a new stimulus, and it may reasonably be expected that the interests of female education will no longer go by default.

K. G. SAIYIDAIN

¹ Page 183

CHAPTER SIX

GIRLS' EDUCATION IN INDIA TO-DAY

Introduction

ONE of the most astounding facts in modern India is the rapid advance of women in the leadership of national life. Nowhere perhaps in the world to-day have so many brilliant and able women been chosen for important service as in this country during the past few years. Women (usually wives and mothers) are already making good as members of the Legislative Assemblies, as Parliamentary Secretaries, as the Minister of Health in the United Provinces, as Surgeon-General in the State of Travancore, in the ranks of the leaders of the Indian National Congress. These honours to women accord well with Indian ideals which reverence motherhood.

In startling contrast to the opportunities enjoyed by educated Indian women is the appalling lack of educational opportunity for the vast majority. The success and initiative of the few provoke the thought that among the many there are also numbers who could make valuable contributions towards the progress of national life, if only they were given the opportunity. The figures confirm this impression. In British India, in 1936, only 509 women received the B.A. or B.Sc. degree,¹ and only 17 per cent of the girls between the ages of 6 and 11 were attending school, while 51 per cent of the boys of school-going age were enrolled.² Of the total expenditure on education, 14.3 per cent is allotted to *colleges and universities for men*, but only 13.5 per cent to *girls' education of all grades*.³ Even the Punjab, which has recently increased its expenditure on female education, still spends 12.1 per cent on the men's colleges, but only 11.9 per cent on all girls' institutions. The proportion in Bengal is 23.8 per cent to 12.5 per cent.

Results of Neglect

The injurious results of this neglect are patent. They are first seen in the home. Much of the failure in the education of boys and men can be traced to the dual set of habits and attitudes, which is caused by the antagonism between school and home. The most enriching and stimulating education is achieved only when the child has an intelligent mother and an enlightened home. No one has measured the causes of the widespread relapse into illiteracy by Indian boys even though they have attended primary schools, but we venture the opinion that a vital factor in this defect is the absence of a habit of reading in the home. No child of a reading mother can

¹ *Education in India, 1935-36*, page 70

² *Ibid*, page 8

³ *Ibid*, page 56

forget how to read, for the health, happiness and cultural advancement of the family are the responsibility of the mother. To fulfil this responsibility she needs a good and a modern education.

A basic factor in the improvement of social life is also the enlightenment of women. Many efforts towards the mitigation of harmful social customs, the preservation of the best in the cultural heritage and the improvement of public health have been hindered or even negatived by the adverse influence of the women in the homes. The efforts of educated leaders to reform marriage customs, to combat superstition, to save life in epidemics, to reconstruct village conditions must all be reinforced by the spread of girls' education.

Of immediate importance is the need for education in order to prepare women for the intelligent exercise of the suffrage, and girls and women are themselves demanding teaching in the duties of citizenship. In this direction lies a great opportunity for all schools, boys' and girls' alike.

Effect of Lack of Trained Teachers

The attention of Indian educationists has recently been focused upon the baneful effects upon schools, especially those of primary grade, resulting from the lamentable shortage of women teachers. Many who have had experience in the promotion and supervision of primary schools agree with the observations of Mr. S. H. Wood in this connection, "Until a system of infant classes staffed by trained women is established in India, education will remain unsound at its very foundation."¹

The shortage of women teachers has very deleterious effects on primary and girls' education. In their place, old men, whose only virtue as teachers is respectability, are often employed in the lowest classes. Thus, at the very stage when young children should be guided towards freedom and joyful activity, they are cruelly repressed. No one should teach young children who has not cheerfulness, a sympathetic nature, boundless energy and enthusiasm. Primary teaching should be a chosen profession and a self-devotion. More women and men who truly love children are essential.

Although it is possible by means of improved training to prepare young men to become sympathetic and inspiring teachers of young children, success is more probable in the case of women. The kind of education which fits girls for intelligent motherhood is equally valuable for the profession of teaching. Girls who show promise of aptitude in these directions should be given every opportunity to be trained as teachers.

Some Indications of Progress

That the evil of this neglect of female education is now widely recognised is very encouraging. Throughout India vigorous

¹ *Report on Vocational Education in India*, by A. Abbott, C. B. T., and S. H. Wood, M. C., page 9.

attempts are being made to remedy past neglect. New measures for the reconstruction of education recognise the importance of giving suitable opportunities to girls. The Educational Commissioner has stated that it has now been recognised that the education of girls is necessary for happiness and progress in town and village, with the result that the forces of conservatism have weakened. Customs and prejudices which have long been detrimental to the advancement of female education are now disappearing.¹

In the Punjab the change in popular opinion is indubitable. Within five years the enrolment of girls has increased by 30,440.² Another hopeful sign is the increased number of girls who are continuing their schooling in the higher stages. The number of girls appearing for the middle school examination has risen during the quinquennium by 90 per cent.³ There is also a growing demand for the provision of high school education for girls. It is the policy of the Bombay Government (according to the report of 1935-6) to give preference in grant-in-aid to girls' secondary schools. The total number of women studying in the collegiate stage in India rose in 1936 to 5,200, an increase over the previous year of 650.⁴ The number of candidates for the B.A. and B.Sc. degrees rose from 188 in 1927 to 509 in 1933, and to 722 in 1936.

Difficulties to be Overcome

This advance has been hard fought. The difficulties in the way can scarcely be overestimated. The period of awakening has unfortunately coincided with a period of financial depression. The Educational Commissioner has consequently advised provincial Governments that "some of the money now spent on boys' education should be diverted to the education of girls, and in all schemes for the expansion of education the needs of girls should receive preference."

More serious perhaps even than the financial stringency are the inefficiency and waste in the use of existing funds. Wasteage is an even graver problem in girls' schools than in boys'. Of the enrolment of girls in the primary stage, about 58 per cent are in Class I. Of 100 girls entering school only 14 reach Class IV.⁵ So far as the attainment of literacy is concerned, 86 per cent of the expenditure seems to be wasted.

The hindrances which retard progress in boys' education are intensified in the case of girls. Indifference on the part of parents and their scepticism of the utility of education keep multitudes away from school. Many villages are without schools of any sort, and in others the schools are incredibly inefficient and unattractive. The

¹ *Education in India, 1935-36*, page 56.

² *Report on the Progress of Education in the Punjab during the Quinquennium ending 1936-37*, page 5.

³ *Ibid.*, page 5.

⁴ *Ibid.*, page 69.

⁵ *Education in India, 1935-36*, pages 60-1.

sheer enormity of the task of providing for all boys and girls of school-going age is one of the most baffling problems that has ever faced a modern nation

Social and Religious Difficulties

In addition to these difficulties, which are common to the education of both sexes, special obstacles confront the education of girls. Social custom, strong conservatism and religious prejudices are strongly entrenched against girls' education. Early marriage and fear for the safety of daughters after puberty often result in the removal of girls from school prematurely. So little is the necessity of educating the home-makers of the nation accepted by local bodies in control of primary education that few will vote adequate sums for the purpose. They are seldom willing to close even an inefficient or superfluous school for boys in order to open a much-needed girls' school. The Educational Commissioner has stated that "local bodies, who are mainly responsible for primary education, are more vocal than generous in their support of girls' education"¹

The difficulties connected with religion and communal rivalries are intensified in the case of girls' education. Separate communal schools, even in the primary stage, are often demanded for daughters, while sons are allowed to attend the common schools. This duplication of inefficient, struggling, one-teacher schools is of frequent occurrence in a village which can scarcely afford to support a single good school. Even when girls of all communities read in the same school, the language question confounds the curriculum-makers. Most girls' schools in the Punjab have to teach Hindi, and often Gurmukhi, as well as Urdu. When, in addition, there is a growing demand for English, it is easy to realise the unfortunate predominance of linguistic studies in the schools.

The major difficulty, however, is the alarming deficiency of trained women teachers. As has already been pointed out, if it were possible to staff primary schools with women teachers, not only would girls be able to attend them, but the education of small boys would be much improved. Unfortunately, the training of women teachers has received insufficient attention. In 1935-6, the number of training schools for girls, which was only 212 in the whole of India, was increased by only one, and the total number of girls under training increased only from 7,039 to 7,212², yet scarcely more than one-half of the women teachers in British India have been trained.

Need for Improvement in Curriculum and Methods

Even more serious is the inferior quality of the education that is provided. Many have grave doubts as to the value of the prevailing type of education. The schools, both primary and secondary, are too often completely divorced in aims and in studies from life itself.

¹ *Education in India, 1935-36*, page 56

² *Ibid.*, 1935-36, page 62

In particular, they have little relation to rural society which is the environment of so large a proportion of the population. The vernacular middle school, which is so important a part in the educational plan, is nevertheless unpopular in comparison with anglo-vernacular schools. In British India in 1935-6, the enrolment of boys in these schools actually decreased by about 7,000 pupils, and within five years 290 such schools have been closed.¹ This is very disheartening, as the aims and curricula of vernacular middle schools come nearer to the ideals of sound general education, and they provide a better foundation for higher studies than do the matriculation-dominated high schools, but they have to face unfair competition from the schools where English is taught. The only remedy is the adoption of the scheme of radical reorganisation as first recommended by the Punjab University Inquiry Committee and later by the Central Advisory Board. The replacement of both the anglo-vernacular high schools and the vernacular middle schools by lower secondary schools of the modern type is the measure which holds out the brightest hopes for the future.

The general dissatisfaction with the kind and content of teaching in Indian schools has culminated in a number of plans for the improvement of curricula and methods. New schemes of studies have recently been adopted in the Central Provinces as well as in Bihar and Orissa. The publication of the *Syllabus of Basic National Education*, prepared by the Zakir Hussain Committee, has aroused unprecedented interest. This revised and detailed statement of the Wardha scheme is a well-co-ordinated and progressive curriculum, worthy of most careful consideration. Some of the impracticable features of the original plan have apparently been modified, notably the intention that the teachers should be paid directly from the products of children's labour. A craft is now to be taught as the basic element in an activity curriculum, and the intention is to correlate the various subjects with this form of handwork as the pivot. The object of the scheme is "not primarily to produce craftsmen able to practise their craft mechanically, but to exploit the resources implicit in craft work for educative purposes."

These revised courses should be attended by beneficial results. They should impart to education a distinctly practical bias, they should reduce the predominance of linguistic studies, they should emphasise the importance of training in social relationships and in intelligent citizenship, and they should give to the child that scientific knowledge and attitude of mind which are necessary for the understanding and control of his environment.

Reconstruction of Girls' Education

In the course of these discussions girls' education has received its due share of attention. If the present system is unsuitable for boys, how much more is it so for girls! If boys are not being prepared

¹ *Education in India*, 1935-36, pages 28-40

for happy and productive living, how much less are girls being prepared for their vocation ?

Though the vocation of the vast majority of Indian women is that of the home-maker, the teaching of home-craft and mother-craft is most inadequate. The science of home-making is worthy of a much more important place in the curriculum, and the teaching of mother-craft should not also be neglected in high school and college. Efforts have been made to remedy this shortcoming. The Lady Irwin College for Home Science, Delhi, offers a course of three years leading to a diploma. The Indian Women's University in Bombay, founded in 1916, has four affiliated colleges in which the courses include domestic science, human physiology, hygiene and fine arts. The vernacular is the medium of instruction and English a compulsory language. Again, in connection with the Allahabad Agricultural College, a recent experiment has been the establishment of a Home Science Department which gives a two-years course up to the equivalent of the Intermediate standard.

Another urgent modification of the present system is to extend the use of the vernacular as the medium of instruction. It is recognised that, in the past, schools have exercised too little influence upon the improvement of the homes and the social environment. The teaching of subjects in a foreign medium emphasises this divorce between school learning and life. If real improvement is to be achieved, girls should be taught the essentials of health, happiness and intelligent control of environment in their own language.

A third emphasis which is recognised as important for boys' education is even more so for girls. In the æsthetic side of education, Indian art, music, drama and poetry have yet to come into their rightful place in the schemes of studies. Appreciation of beauty in nature, literature and art, and creative self-expression in the arts (including writing) are essentials for the fullest development of personality.

Problem of Separate Schools

Much more might be said about the changes necessary in the curriculum of girls' education, but it is now time to discuss the root question whether these special needs of girls involve the necessity of providing for them a separate system of education. The answer of popular opinion is probably in favour of separate schools and of a different curriculum for girls. The answer of practical administrators, on the other hand, is that universal education would be impossible if two separate systems of primary schools had to be provided. The correct answer, however, should not be given merely on grounds of tradition or economy, other considerations should be taken into account.

The results of psychological research are of importance. In a stimulating article on "Vocational Training for Girls" ¹ Dr J. M. Kumariappa has written "Even if it (*the unsuitable present curri-*

¹ *The Punjab Educational Journal*, June 1938

culum) were modified, the education of the girl ought not to be the same as that of the boy, for the simple reason that nature has endowed both the sexes with special faculties, and has ordained distinctive functions for each to discharge toward society and the race." With the second part of this reason—the differentiated functions—we may agree, but the first statement is unsupported by scientific facts.

That there are fundamental intellectual differences between the sexes is a belief that dies hard. Psychologists have done a vast amount of research in the attempt to discover whether there are psychological variations comparable to the physiological differences between the sexes. The consensus of opinion among the experts may fairly be summarised in Dr Thorndike's striking statement: "The most important characteristic of these differences between the sexes is their small amount. The individual differences within one sex so enormously outweigh the differences between the sexes in these intellectual and semi-intellectual traits that for practical purposes sex difference may be disregarded."

The Women's Education Committee of the Central Advisory Board of Education, which was appointed to consider the curriculum of girls' primary schools in India, made the following recommendation:

"Primary schools for girls have been criticised as being too much like those of boys, and there exists an idea that primary schools for girls should be distinct from those of boys and with different curricula. We do not agree and feel that in the primary classes no distinction in curriculum is necessary, as the interests, activities and the life of young children are much the same whether they are boys or girls. The Consultative Committee of the Board of Education in England states:

"Our enquiry has not imbued us with any conviction that there are clear and ascertained differences between the two sexes on which any educational policy may readily be based. It would be fatal at the present juncture to prescribe one curriculum for boys and another for girls."

Curriculum Adaptations

How, then, shall the special needs of girls, as previously outlined, be met? First, by the thorough reconstruction of the primary curriculum so as to provide a basic education *for all*. If this curriculum be practical in its bias, if it be centred in the experiences of the children, and if it be taught by stimulating and active methods, the needs of both boys and girls will be fully met. A well-rounded curriculum such as has been suggested by the Women's Education Committee would provide ample opportunity for developing those few activities and interests in which boys and girls may differ. For example, we ourselves have often noticed in the primary class "projects" carried out in the Moga School that the little boys usually prefer to make the furniture for the house or the shop or the village

which the class is constructing, while the little girls prefer to dress the dolls inside the house. In mixed primary schools it would be easy to provide simple needlework and basketry for the girls, and woodwork and gardening for the boys, but there is no assurance that the children will so divide themselves! From about the fourth year of school, special instruction may be provided for girls in simple cooking and sewing, but for the basic knowledge and skills in hygiene, nature study, history, geography, reading, oral and written language, and number, and in individual and social habit-training, boys and girls need the same teaching, whether they are in separate or mixed schools. Health and physical training, including games and simple rhythmic movements, will also be practically the same both for small boys and girls.

The next step will be the provision of a well-planned *lower secondary stage*, "which should provide a self-contained course of general education and will constitute a suitable foundation either for higher education or for specialised practical courses. In rural areas the courses at this stage should be attuned to rural requirements. Some form of manual training should be provided, which would aim at the development of practical aptitudes, and should be made compulsory."¹ In separate girls' schools (which at this stage may still be necessary) and also in mixed schools, the form of compulsory manual training will be found in the household arts. Physical training and health instruction will need to be specially planned for girls in this stage. In place of the high school science courses, girls will study home science. In order that this study should have no inferior status, the equipment should be adequate and comparable to the laboratories provided for the boys' courses. The study of food values and the planning of family dietaries and—where possible—the raising of vegetables in school gardens should form an important part of the course. Mothercraft, involving not only the physical care of infants, but a simple introduction to the psychology of children and practice in the guidance and care of young children would be included in the final year of such a course.

In all other respects girls' secondary curriculum should be almost identical with that for boys. The emphasis on the vernacular and on creative expression in art is as important a part of boys' education as of girls'. "Art," says the Wood-Abbott Report, "should not be thrown into the curriculum as a concession to sentiment, but should claim its place as a necessary part of each boy's education in the humanities and because the school as a social institution ought to aim at an honest appreciation of æsthetic value in life."

A further step will be to consider the *higher secondary stage*, "which should be a preparation either for higher education or for a special type of education."² Here not only should girls have the opportunity to pursue the usual arts or science courses, but special

¹ *Education in India, 1935-36*, page 30

² *Ibid.*, page 30

courses and schools of home science and related studies at the college level should also be provided. Training schools and colleges for women teachers also constitute a major need.

The Problem of Co-education

The above considerations suggest that the provision of a suitable curriculum for girls does not necessitate by any means a completely separate system of girls' schools. From the point of view of progressive education, there is no objection, therefore, to the mixed school, indeed, it is definitely desirable at the primary stage.

The practical possibilities of co-education in the primary schools, as a measure of extending education for girls, are becoming increasingly apparent. In British India, in 1936, 1,268,562 girls attended boys' institutions as against 1,177,404 the previous year. In five of the provinces there were more girls in boys' primary schools than in girls' schools. "In regard to the United Provinces it has been remarked that co-education in boys' schools is helping to solve some of the problems in the way of primary education for girls. Everywhere the prejudice against co-education is now dying out and parents gladly send girls to a boys' school, especially when a teacher from the locality and belonging to the predominant local community is employed on the staff."¹

The position in the Punjab, where segregation has so long been considered necessary, is now encouraging. The Director of Public Instruction believes that conditions are favourable for launching a campaign for co-education in all districts."² "Local conditions, social obstacles, caste distinctions and religious feelings are gradually losing their force and people are clamouring for girls' education."³ "The Department is in favour of encouraging co-education at this (the primary) stage because it is obvious that the province cannot afford separate schools for boys and girls in the majority of villages. Hence, in many cases, the alternative is not between co-education and a separate girls' school, but between co-education and no education at all for girls."⁴

Two devices are being tried in the Punjab for establishing co-education on a right basis. The first is that of opening co-educational primary schools, which are staffed entirely by women teachers. Ten such schools have already been started, and the experiment is working well. They have been opened in two districts where the Sikhs are a predominant community, and where the custom of purdah is not strong. The schools are under the care of experienced headmistresses and the teachers are of the senior-vernacular grade.

The second device is to employ in primary schools for boys the wife or very near relative of the village schoolmaster, who teaches

¹ *Education in India, 1935-36*, pages 54-5.

² *Progress of Education in the Punjab—Quinquennium ending 1936-37*, page 24.

³ *Ibid*, page 24.

⁴ *Ibid*, page 97.

both boys and girls in the infant classes, looks after the welfare of the girls in the upper classes and gives them special instruction in needlework and hygiene. These women are given practical training in these duties. Two special classes for training twenty women each have been opened in connection with girls' high schools, and a third, in connection with a men's normal school, for training the wives of students. A number of these women have already finished their training and have been appointed together with their husbands to village schools. This method should give parents confidence in the safety of their daughters and should prove attractive to the girls.

Further study and experimentation are needed to overcome the obstacles in the way of staffing primary schools with women teachers. The establishment in central villages of homes for teachers where several young women can live together under the protection of an older woman is a possibility. The postponement of marriage in the case of educated girls in order that they may give a few years of service to education prior to marriage, the employment of mothers as soon as their children are growing up, and part-time employment of younger married women, the school day being divided into shifts, are other proposals.

By whatever means it may be achieved, the disparity between girls' and boys' education must disappear if nation-building is to be promoted by the schools. Educational opportunity for girls is essential to social and cultural progress. Manu, the ancient law-giver, wrote "The man is not the man alone, but the man, the woman and the child, the three together make the complete man." Even so, adult education, boys' education and girls' education, the three together, will build up the complete nation.

IRENE MASON HARPER

PART SEVEN

Language Problems in Colonial Education

CHAPTER ONE

GENERAL SURVEY OF THE PROBLEM

(See also YEAR BOOK OF EDUCATION, 1937, pages 411-38, 1938, pages 693-739)

Introduction

THE Colonial section of the YEAR BOOK has during the last two years been devoted to a general examination of Colonial Office policy and to the origin and development of that policy in Africa

This year we are directing attention to the problems connected with a particular aspect of that policy, namely the development of English in territories in which the English language is not the vernacular of the bulk of the inhabitants. These problems appear in striking form in Ceylon and in Malaya, and it is for that reason that the problems in these territories are discussed

This introductory note is included in order that the problem may be viewed as a whole in relation to the general question of language instruction throughout the British Commonwealth

The problems of Ceylon and Malaya are admittedly in some respects peculiar to these territories, the methods of dealing with them indicate the freedom which, under the Colonial Office, is granted to local governments to tackle their own peculiar difficulties

At the same time the problems themselves are not merely local, and the survey of the position in these two special territories should be of value to educators throughout the whole Colonial territories wherever the vernacular of the people to be educated is not English

Language Problems in Great Britain

It is difficult for those of us who live in England to appreciate fully the significance of language problems in education. We may have heard of difficulties created by the demand for fuller recognition of the place of Welsh in education in Wales, we may even have heard of a somewhat remote demand for the maintenance of Gaelic, but we find no serious obstacle in the disposal of these difficulties even when they appear to approach the dimensions of a national movement. There seems to be two reasons for this. In the first place, we readily accede to the demand for the preservation of old national languages because we make no pretence, as a political unit, to be composed of one single racial stock. In making that

admission we admit the claim of a section of the community to preserve and, if they wish, to develop the language of their ancestors. The second reason is that the communities concerned, though they are eager to maintain their own special characteristics in the field of language, accept the implications of a wider nationality, and one of those implications is the possession of a common tongue. The fact that that common tongue is English is no doubt of great importance, but that fact is not fundamentally relevant to the question at issue. It is of great importance only because the wanderings of men and women who speak English have made it the language in common use over the greater portion of the world.

Language Problems in the Dominions and European Colonies

It is when we come to consider language outside Great Britain that we find that national and racial sentiment create difficulty and even dissension. These difficulties arise where European communities of different linguistic ancestry find themselves side by side and where neither community is prepared to surrender its racial individualism in so far as language is concerned. The instances which occur at once to one's mind are those of Canada and South Africa, where solutions have been found by the peoples of those Dominions. These particular problems of language are of a type which have not in practice arisen in the Colonial Empire as distinct from the Dominions. In the main, the Dominions have in the past had this distinctive characteristic: they have been the home of European colonists speaking a European language.

It is, of course, true that there are many examples of territories in the Colonial Empire largely inhabited by Europeans, but the acquisition of these territories took place in nearly every case in times when language questions were in the main settled by the imposition of the language of the Imperial Power. Even so, the attitude of the British has generally been characterised by a sympathetic treatment of the inhabitants of an acquired territory in the matter of language. The case of Mauritius is only one example which illustrates this attitude.

The general adoption of English as the sole language in the West Indies is not an instance to the contrary. In that case the adoption of English was really the inheritance of the condition of slavery. In that condition the vast numbers of immigrants, having no common language of their own, were compelled by the very circumstance of slavery to adopt the language of their masters.

Language Problems in non-European Territories

The case of India is indeed one in which the adoption of English in education appears to be contrary to the general practice of the Colonial Empire. This is no doubt true, but we must not lose sight of the special circumstances arising from the vast number of vernaculars concerned and the conditions in which the Government

of India undertook the education of the Indian peoples. Nor must we lose sight of the more recent development of education in India with the increasing importance attached to the languages of the people. That development has no doubt been partly educational and partly political, we must also remember that in the field of education we can regard India as possessing Dominion status with the power to work out her own solution of her language difficulties.

Problem of Communities under the Colonial Office

It is when we come to consider the case of communities under the Colonial Office in which the language of the people is not a European language that we find ourselves faced with a real Colonial problem. That problem may be stated in general terms to be this: What is the place of the languages of the people to be in the educational scheme, and what is to be the place of English in the educational scheme?

Different Types of Territory

The problem differs materially in different territories, for the territories are very diverse. They fall into three groups. The first consists of those Colonies or Dependencies in which there is a native vernacular, which was reduced to writing so long ago that it has been, not only a means of communication between people of the same generation, but has enabled one generation after another to hand on to their successors their thoughts and their teaching, in the form of written speech. Such cases are exemplified by Ceylon, with its two vernaculars of Sinhalese and Tamil.

The second group consists of those territories in which the language problem is created by the existence of native vernaculars, often very considerable in number, which have only in recent years been reduced to a written form, generally by missionaries, and rarely with agreement or consistency. The bulk of these territories are to be found in Africa, with its hundreds of native languages and dialects.

The last group of territories from a linguistic point of view is that in which there has been considerable immigration of foreign elements. A striking example of such a case is that of Malaya. Mr. Neilson has set out very clearly the conditions which exist. There we have had a huge immigration of Indians and Chinese, bringing with them their own languages and, in the case of the Chinese, their own language problems. Another but less terrifying example is that of Fiji.

Teaching of English the Central Problem

In all these varieties of territory there is one language problem which is common to all, and that concerns the place of English. An attempt was made in the YEAR BOOK OF EDUCATION of 1937 to indicate the lines on which the problem is being faced in Africa.

The special problems of Ceylon and of Malaya are set out in the two following chapters

It is important that we should be clear as to the exact nature of the problem, and we may perhaps state it in the form of two questions

(1) To what extent should education in the vernacular be complete in itself ?

(2) Is English to be made available to all ?

What do these questions imply ? They imply surely that we have to consider whether we should endeavour to provide a curriculum for the bulk of the people in which English finds no place. If we are forced to the conclusion that there are educational or political reasons which make such a course impracticable, we have to consider the extent to which English shall be made available. Is it to be made available to all ? What standard of knowledge is to be our aim ?

The Demand for English

One thing appears abundantly clear, and that is, that any system of education which attempts to withhold opportunities for learning English is doomed to failure, if only because the people directly concerned will not accept it.

Mr Macrae quotes the Director of Education in Ceylon as saying "the demand for English has, in fact, become so great that the question of teaching English in vernacular schools has ceased to be merely a question of curriculum, and has become a question of financial policy of primary importance."

The point is put with no less vigour by Mr Neilson, who tells us that it is his belief that were free English education everywhere available, the vernacular schools would, save in the outlying states, be almost deserted.

Those of us who have had experience of African educational problems can endorse these views. It may be said in general terms that the problem in the Colonial Empire is not one of forcing English upon unwilling communities. It is rather to keep a fair balance between educational values.

English in the Vernacular School

We are driven to the conclusion that any attempt to keep instruction in English out of the vernacular schools in which we are trying to provide the requisite minimum of popular education must inevitably produce profound discontent. It is evident that in Ceylon the effort to limit instruction in English is productive of something approaching local administrative evasion. In Malaya, the universal demand of the Chinese for English had led to the teaching of English from almost the first year.

What, then, is to be done ? Should we provide instruction in English for all ? It seems at first sight easy to offer an affirmative answer to this question. We may indeed subscribe willingly to the

principle, but we must face the difficulties involved in the application of the policy in practice

The policy can only be effectively carried out if two conditions are fulfilled. The first of these is the extension of the school life of the whole school population, so that all may reach the stage at which they can begin to learn English, with the reasonable hope that they may be able to continue learning it long enough to acquire at least a working knowledge of the language. If we really do more than pay mere lip-service to the principle of mother-tongue instruction, then we must insist that the first years of schooling are passed in the atmosphere of the vernacular. The unduly early introduction of English is likely not only to be harmful to the general development of the child, but may well in the circumstances under which such instruction is given postpone or defeat its own object, which is the acquisition of a reasonable proficiency in English.

The second condition to be fulfilled is the provision of an adequate staff of teachers with an effective knowledge of English. The fulfilment of both these conditions will clearly involve not only a large expenditure of money, but also much time devoted in the main to the development of bilingualism, as one of the main immediate objectives of the education authorities. Whether the actual method to be adopted should approximate to that of the English schools of Ceylon, or the so-called bilingual schools, is a question which we need not discuss, though it may be worth remarking that if the policy of teaching English universally is to be adopted, then the gradual introduction of its instruction would appear to be the natural course to take.

The Financial Aspect of the Problem

The financial difficulty is undoubtedly a serious one, and all of us who have attempted to improve the knowledge of English in communities such as those of Ceylon and Malaya, or even of Africa, have been conscious of it. It may be, however, that we are inclined to be overwhelmed at the initial sight of the great mass to be moved. The number of pupils for whom we must make laborious provision in the first instance will in the nature of things produce a supply of teachers within a measurable number of years. It may be worth while considering in outline how the problem might be tackled. The figures which we give are, of course, purely imaginary, but they will suffice to illustrate the argument. We must in the first instance know how long it will take to make an effective teacher of English. The period required will, of course, vary considerably, according to the circumstances of the territory concerned. It would appear not unreasonable to suggest six years. On that assumption the progression might be something like the following, even if only one specialist teacher of English were appointed in the first year.

In the first six years it would be necessary to appoint one new teacher each year, making six in all. Let us assume that each teacher

has a class of thirty, and that from each class of thirty, ten can be expected to become teachers of English.

Taking these figures as a basis, we find that in the seventh year we shall have sixteen teachers of English, increasing by ten each year, so that at the end of twelve years we should have sixty-six qualified teachers. It would appear reasonable to anticipate that during the second decade of our effort we should be moving rapidly towards the production of an adequate number of effective teachers of English. If, in the first instance, we can begin with more than one teacher, the work will be achieved very much more rapidly. The financial problem ought not to terrify us unduly, provided we recognise that we must plan to proceed gradually. The provision of a small number of specialist teachers for a period of six years ought not to present an intolerable financial burden.

English as a Secondary School Subject

There is one aspect of the problem of English instruction which is emphasised by Mr Macrae, and that is the kind of English which is aimed at, owing to the development of English as a mainly secondary subject influenced inevitably by the English examination system. This difficulty must be familiar to all who have watched the pupils of schools in territories where English is not the vernacular. They are attempting to compass examinations framed for pupils to whom English is their native tongue. This creates the danger which arises from an inevitable artificiality and involves a divorce from the natural environment of the pupils concerned. It is suggested that the line of development has produced what may be called academic bilingualism, which is the product of the secondary school, as distinct from the product of the teaching of English in a vernacular environment. That product might be termed practical bilingualism.

There is some force in the contention that the adoption of the secondary school as the only place in which English can be effectively taught has produced a type of English instruction which is not calculated to develop rapidly a really bilingual population. The solution which suggests itself is that the teaching of English should not be a distinctive feature of the secondary or post-vernacular school, but should begin normally in the vernacular school itself.

This must inevitably involve the gradual introduction of English as part of the general education of an increasing proportion of the school population, whether they proceed to a secondary school or not. It is evident that, as a matter of fact, things are developing in this direction in Ceylon. It is evident also that in Malaya, quite apart from the Chinese schools already referred to, there exists provision for some English instruction in the Malay vernacular schools.

The fact is, that the people demand more and more English as a part of their general education, and this demand must be met if the education given is to be regarded as a truly popular education.

Conclusion

In so far as this demand for instruction in English is met to an increasing extent, the difficulty of English in the secondary school will tend to disappear, and it will be impossible even to suggest that there are, in fact, two kinds of English—the one spoken by the pupil who learns it in the primary school, and the other by the pupil taught in the secondary school.

One of the great teachers of English has said, and said with truth, speaking of England, that the real battle of English lies in our elementary schools, and in the learning of our elementary teachers. It is there, he says, that the foundations of a sound national teaching in English will have to be laid, as it is there that a wrong trend will lead to incurable issues.

The danger of attempting to create a false distinction between the teaching of English in the vernacular school lies just here—in the words of the same wise teacher: "A liberal education is not an appendage to be purchased by a few, humanism is rather a quality which can and should condition all our teaching, which can and should be impressed as a character upon it all from a poor child's first lesson in reading, up to a tutor's last word to his pupil on the eve of a Tripos."¹

It is a general principle now universally accepted in the British Empire that the basis of popular education must be what we may call an enlightened vernacularism. But it is no less true that the gradual spread downward of instruction in English will not only popularise all education, and so tend to make it more universal, but in doing so will also help to solve one of the most serious difficulties of the secondary school itself, and that is, its exotic and artificial character.

If the problem of language is approached on these lines, it ceases to be an isolated educational problem, and is merged in the general educational problem which awaits solution throughout the Colonial Empire. That problem, of course, is the provision of adequate and effective education for the whole mass of the population. It can only be solved if the Colonial Governments recognise the need to provide funds for education on a much larger scale than at present appears possible.

H S SCOTT

¹ Sir Arthur Quiller-Couch, *On the Art of Reading*

CHAPTER TWO

THE PROBLEM OF BILINGUALISM IN CEYLON

Introduction

WHY the "problem" of Bilingualism? Is it because it dignifies our subject to call it a problem, or is there some outstanding difficulty, the solution of which cannot be suggested by an ordinary description of the position in Ceylon?

There are, indeed, many difficulties and it would perhaps be more accurate to write about the "problems" of Bilingualism. But we want to warn our readers at the outset that this is no attempt to analyse and solve all the difficulties in our subject. There are difficulties in deciding what are the best teaching methods, difficulties in obtaining a supply of efficient teachers, difficulties in securing the right kind of school books, and financial difficulties in carrying out a considered plan for attaining Bilingualism. These problems or difficulties are common to most bilingual countries and while we shall have to refer to them in dealing with Bilingualism in Ceylon there is another, and more subtle, difficulty arising out of the past history of educational policy which requires our attention, not so much because of its academic interest but because its solution—if it can be solved—may be of interest to other colonies or countries which have similar conditions.

Statement of the Problem

What is the Problem?

Bilingualism in Ceylon has become a problem because of the aims of English education in that country. Its development has become difficult because of those aims. To put it simply, the aim of English education has been to produce secondary and higher education in English through the medium of English. The aims of Bilingualism are, or should be, to obtain a good working knowledge of a second language. These two aims have clashed in Ceylon and we shall attempt to show the reason for that clash and suggest some remedies for overcoming it.

As distinct from the avowed aims of English education we take the problem of Bilingualism to be the difficulty connected with the attempt to give a good working knowledge of the English language to the greatest number of pupils, in the most efficient way and in the least possible time. This problem has many aspects and can be viewed from many angles because the situation in which it exists is a complex one. The conditions of the country in which it exists are vastly different from those in England. The mental characteristics of the people are different and so is their whole intellectual and historical tradition.

Aspects of the Problem

(a) *Financial*

But we can begin our survey by referring to an aspect of the problem which has received considerable prominence in the recent reports of the Ceylon Education Department. We refer to the financial aspect of the problem—an aspect which has been created by a persistent demand among all classes of the population for a knowledge of English. The problem in Ceylon is largely centred round the fact that education in the vernaculars is free, while fees are charged—with very few exceptions—for learning the English language. This fact has a twofold effect. What is paid for tends to be regarded as of more value than what is free to all, and when this is added to the economic and educational advantages of English we are not surprised to read in the Director of Education's report, published in 1937: "The demand for English has in fact become so great, that the question of teaching of English in vernacular schools has ceased to be merely a question of curriculum and has become a question of financial policy of primary importance."

What may be called the "subjective" value of English is created by its cost. The objective value of the language lies in the opportunities for employment, imaginary or real, which it creates.

(b) *Social and Economic*

An article that requires money to secure it acquires also a social value, and the more money it costs the greater social prestige attaches to it. This elementary fact secures for English and some of the more expensive English schools a social status out of all proportion to the economic benefits derived from them. It is, therefore, scarcely surprising that the Director of Education thinks that the problem has become more a financial than an educational one. The demand for English is urgent and persistent and a national demand of this kind only requires time till it is satisfied. There is no doubt that it is this demand which has created the financial situation.

(c) *Educational*

But it would be unfair for anyone who knows the Ceylonese to say that the demand for English is based entirely on social aspiration. There are other very potent factors behind this demand. There is first the idea that Government service, the teaching profession in English schools, and clerking or accountancy are good jobs which cannot be obtained without a knowledge of English. But even more fundamental, though seldom expressed, is the feeling, based upon fact, that a knowledge of English enlarges the outlook by the ready access it gives to books of all kinds. There is a great scarcity of published work in the vernaculars, and translations take so long to prepare that books become out of date by the time the translation is finished. So the simplest and easiest way to enter the larger world

of literature, politics, finance and international affairs is to learn a language which is rapidly becoming an international medium

These are some of the considerations which give rise to the persistent demand for English

Distribution of the Vernaculars

Before considering the consequences of this demand, the financial implications attaching to it, and the methods that have already been devised to meet the demand, certain facts relating to the distribution of the vernacular languages must be borne in mind

There are in Ceylon two major vernacular languages, Sinhalese and Tamil, and although these two languages have had certain origins in common from Sanskrit and Pali yet they differ from one another even more than English and French. The script in which they are written differs profoundly in character and there is no easy transition from one to the other. A Sinhalese would have as much difficulty in learning Tamil as he would in learning English.

The geographical distribution of the languages has a distinct relation to their origin. Ceylon has in the past been the scene of frequent invasions from South India, and the Tamil language which comes from that country naturally finds its home in the Northern and Eastern shores of the island. The home language of the island finds its stronghold in the mountainous interior and in the Southern plains, except where colonies of immigrant labour—the peaceful invasions of recent years—have introduced the Tamil language into the vast agricultural expanses occupied by tea and rubber. But Sinhalese still remains the language of the great majority of Ceylonese, and it is there that we find embedded the historical tradition and religious aspirations of a race whose history goes back beyond the Christian era. The two languages are consequently associated with two of the great religions of the East—Hinduism and Buddhism. Although Arabic is taught in a few Koran schools, and Pali is largely studied in Buddhist seminaries, neither of these languages affects to any extent the official school curriculum. While the origin and geographical position of the Tamil language gives it a certain economic value for local trade with South India, yet Sinhalese claims economic superiority when it comes to internal trade.

The Position of English

In order to appreciate and understand the position of Bilingualism in Ceylon a few figures are necessary. According to the Director of Education's report published in 1937 there are 726,334 pupils on the roll in all schools—including Government schools, assisted schools and unaided schools, but excluding the University College, the Medical College and the Law College. Of this number 67,253, i.e. less than 10 per cent, attend English schools. Of the remainder approximately 67 per cent attend Sinhalese schools and 33 per cent attend Tamil schools. If these figures are borne in mind they will

serve to adjust one's perspective because the amount of talk about English education, both by the local English Press and by the English-speaking population of Ceylon and elsewhere, gives the impression—as it did to at least one recent Governor of the island—that every pupil in Ceylon is being taught some sort of English. It also gives point to the Director of Education's remark that the demand for English has become a question of finance rather than of education. For the cost of an English education to the General Revenue of the Island is at least twice the cost of vernacular education, despite the fact that fees are charged in the one case and not in the other. This disparity is due to more than one factor, but the higher qualifications and consequent higher salary of an English-speaking staff, and the higher standard of buildings and equipment, are the two dominating causes.

This serves to illustrate why the Director of Education refers to the strong demand for an English education and to the financial implications involved in satisfying that demand. The problem of more English in an island like Ceylon cannot, he rightly suggests, be solved merely from academic considerations relating to the economic and educational advantages of learning English. We may on economic and educational grounds conclude that it might be a good thing if all the 700,000 pupils in Ceylon had a working knowledge of English, but the fact remains that neither the parents nor the country can afford the immediate adoption of such a policy, even if English teachers were available to carry it out.

Classification of Schools

Let us now turn to some of the methods adopted in meeting the demand for English within the limits imposed by considerations of finance. Schools are classified in Ceylon as English, bilingual, Sinhalese and Tamil, and the stages of school life in all classes of schools are similar. These stages—primary, junior secondary and senior secondary—follow approximately the age ranges which apply in England. For example, the primary course finishes at 11 plus, while the junior secondary finishes at 15 plus, and this is the stage where the vast majority of pupils finish their school career.

The medium of instruction varies according to the type of school, but the content of the curriculum is practically the same for all types. There is one important exception in a group of schools known as rural scheme schools, but the scope of the present survey does not permit us to enlarge on this significant exception.

The bilingual problem arises in the early stages of the English schools and in bilingual schools. But attention must be drawn to a third type of school of growing importance, although it does not yet find a place in the official classification—we refer to the Sinhalese or Tamil school, which has in recent years an optional course of English. This latter type has assumed an important place in solving some of the problems of Bilingualism. A study of these three types

will show how the demand for English has hitherto been met and will concentrate the problems which arise from such a demand

(i) *English Schools*

The Sinhalese or Tamil pupil who intends to enter an English school can do so in one of two ways. If he has already acquired a working knowledge of English from his parents he can enter school at the kindergarten stage and follow a course of studies through the medium of English in the same way as an English boy does. If, however, he has no knowledge of English he must, according to the Code of Regulations applying to schools, enter a Sinhalese or Tamil kindergarten and remain there for a few years, learning the rudiments of his education in his own mother tongue. He may then transfer into either an English or bilingual school where he is introduced to the mysteries of a new language. In the English schools the most common method of dealing with newcomers from Sinhalese or Tamil schools is a two-years' intensive course of English in which the "direct" method of teaching a foreign language is employed. After this intensive course the pupil is able to enter the ordinary classes of the school in which English is the medium of instruction. He usually continues the study of his mother tongue as one of the school subjects. Much has been said of the strain involved in this intensive course, of the unnatural condition of suddenly stopping the normal progress of one's education in the mother tongue and concentrating all one's energies at an early age in mastering a new language, but the method in Ceylon has survived criticism and has certainly produced some remarkable results. Pupils have surmounted the handicap of these two years and at the university stage have shown themselves not in the least degree inferior to those who were taught in the one medium of English throughout.

(ii) *Bilingual Schools*

It was partly to meet the criticism of this method, and partly because of the fewness of English schools, that the method in force in bilingual schools was evolved. Here Sinhalese or Tamil is the only medium of instruction for the first four or five years of school life, after which a course of English is gradually introduced. The time allotted to English is progressively increased each year until by the end of the junior secondary course the medium of instruction in all subjects, except the vernacular language, is in English. This method, known as the "sliding scale" method, has the advantage of retaining a considerable amount of instruction throughout school life in the mother tongue of the pupil. We understand that the value of the method as contrasted with the "direct" method is still the subject of investigation. It is interesting to note that the Government Training College in Colombo is making a special study of the comparative merits of these two methods in schools which are attached to that excellent training institution, and a report of the experimental work done there would be of great value.

The "direct" method has the value of speed in securing what is aimed at, while the progressive method may possess superior educational advantages in preventing at an early stage in the pupil's career a period of repression which may have bad after effects. It has been argued that the two years in which the mother tongue is excluded from school work has less deleterious effects than one would expect, owing to the fact that out of school hours the pupil is free to express his feelings in his mother tongue, while even during school hours the teacher may find it necessary to resort frequently to the mother tongue to clarify his explanations. Both methods with variations of each exist in the English and bilingual schools of Ceylon.

(iii) *Vernacular Schools*

The third type of school we referred to is the vernacular school with an optional course of English. This contrasts with the genuine bilingual school where all pupils must follow the bilingual course. English is taught here as an optional class subject. It is optional, not because of lack of interest, but because fees are charged. It is also important to note that the aim of the teacher is not to prepare his pupils to sit for English examinations but to give them an elementary working knowledge both of writing and speaking the language. The methods employed are left to the individual teacher. The restricted aim undoubtedly satisfies a genuine demand but it has had one unfortunate effect. It has led to the employment by managers of assisted schools of the less qualified and, therefore, cheaper teachers. The grant paid for such teachers is a portion of the teacher's salary, the remaining portion being secured from school fees. But such is the rivalry between schools that some managers encourage school attendance by charging no fees and employing teachers who are content to receive the Government moiety of their salary. If free English becomes common in Ceylon vernacular schools, the day is not far distant when a working knowledge of English will spread to the 90 per cent of school pupils who are now denied that privilege on the grounds of cost.

Such in brief are the methods employed in Ceylon to spread bilingual education. We now turn to comment on some of the effects of English education as it is at present conducted and controlled in Ceylon.

The Aims of English Education

No one will deny that a second language, and especially English, gives an opportunity to the student to obtain a wider outlook on life. It stimulates his intelligence by giving him access to a world of literature, science, history and philosophy formerly closed to him. It enables him to take an intelligent interest in political and civic life in a country where the language of politics, law and administration is predominantly English. But we can legitimately ask whether the effects which English teaching has had in the past are all on the

credit side Has it not had bad effects which neutralise the good ? English education has, in the past, been associated with secondary education It has been regarded as the only medium through which a pupil can pass from the elementary stage of school life This attitude is largely justified by the lack of literature in the vernacular languages which can support a secondary education The number of books available—except those dealing with the literature and traditions of Sinhalese and Tamil—is too small to provide a course of vernacular secondary education even below the university standard

Secondary Education

Not only in Ceylon, but in other countries, the path of secondary education is supposed to lead to the professions of law, medicine, engineering and teaching, and for those whose aspirations are not so high it is expected to lead to some occupation of the clerical type—black coated in England, but trousered and white coated in Ceylon Such an aspiration is admirable if there are a sufficient number of such posts to warrant a wide extension of secondary education But Ceylon is not England Such posts are few and specialists are rare One cannot help asking whether under those circumstances it is wise, not only to extend English education, but also to extend the academic aims of English education

English Examinations

Those academic aims are fostered—as everyone knows—by the examination system which controls study not only in England but in the Colonies The university ideal is still the dominating idea of English studies The Cambridge Syndicate examinations and the London University examinations are, in Ceylon, the goal of a number of students, which is perhaps larger than the economic condition of the country at present warrants Those who have much to do with education in Ceylon have not been blind to the serious problem created by such conditions and they have done their best to counteract the effects of such a narrow ideal of English education It may be added that when this narrow ideal in England is exported it becomes even more shrunken than it ever was in a temperate climate A prominent Ceylonese—himself highly educated at an English university—once remarked “If English education is to cause our sons and daughters to turn their backs to the land and neglect to develop its resources, to lose sympathy with the life of the peasant and loyalty to all that is good in our traditions and history, then we are better without it” We are forced to ask—What kind of English education does he mean ?

The Dangers of the Academic Ideal

The aims and effects of an English education may at first seem irrelevant to a study of the bilingual problem, but this is far from

being the case. There is one important fact which is appreciated by anyone who has had actual experience of this problem, viz that a knowledge of English can be disseminated up to a certain stage without at the same time coupling it with narrow ideas which have such a deleterious effect in tropical countries. English can be taught without subjecting the bulk of students to the baneful effects of academic examinations. It can be closely related to the life of the people. The Director of Education in his report (1937) complains that the secondary English schools are still controlled largely by examinations which are designed to conform to the academic requirements of English minds, yet as a contrast he points out that "The method of instruction up to the junior secondary stage aims at relating all subjects to the conditions of life of the pupils, and considerable emphasis is laid upon the practical application of school subjects. The detailed arrangements made to secure the relation of education to the life of the people are regarded as an essential part of the system of education in this island, where a very large majority of people are engaged in agricultural pursuits." It appears, therefore, that despite the dangers attendant on what we have called a narrow academic ideal, the advantages of studying and gaining a competent knowledge of English as a *lingua franca* far outweigh the disadvantages, provided the progress of English education proceeds in future along the avenue of the vernacular schools. A wide extension of the language along these lines would remove the false glamour that attaches to it while it is the possession of the few at a great price. It would also remove its pseudo-economic value as a stepping stone to an overcrowded clerical profession, and secure a direct contact between people of different races who are now too dependent on the services of interpreters in law courts and administration offices.

Teaching Methods and Experiments

Two problems, apart from the financial one, still remain—and may probably always remain—viz the problem of the best method for acquiring a working knowledge of a foreign language and the supply of efficient teachers. The experience of Ceylon has tended to favour a compromise between the "direct" and "sliding scale" methods—that is a method by which the study of English is gradually extended in the school curriculum and taught according to the "direct" method. Considerable experimental work has been done, and is still being done, in Ceylon with a view to evolving a suitable curriculum and discovering the most effective teaching methods. The aim of one experiment is described as "to determine what progress in English could be made in the first year by pupils who came from non-English-speaking houses in a rural environment, and to formulate a scheme of work based on the experience gained in the course of the experiment." The average age of the pupils was 12 years and they had all received a primary education in their

own mother tongue The time given to English was two periods of 40 minutes each per day and in addition English was used during the gardening and drill periods

The results are described as highly successful, the pupils (within the limits of their vocabulary) being able to read with understanding and enjoyment and to speak fluently and correctly Here are some of the conclusions which the authors are careful to describe as "provisional"

1 One period a day for English—especially in schools where the environment gives little or no assistance, is inadequate

2 The importance of a good start cannot be exaggerated Just as the pupil's life consists of a continuous growth and expansion, so his learning of the second language should be a matter of continuous growth What he learns of English as a second language during the first year, although but a nucleus in relation to the sum-total of his experience, must be at the same time an organic nucleus—something which can grow and develop rather than be increased through some unrelated addition That is, the whole of it with its constituents amplified should be carried forward into the work of the following year

3 In framing a suitable scheme of work for the first year, a good plan would be for the teacher to mark off the pupil's life into its main phases or planes There will be the home life, the out-of-door and play life, and the school life Add to these the more marked elements of the social, industrial and religious aspects of the pupil's surroundings, and these as nearly as they appear to the pupil and not as the teacher sees them The next step will be to choose from these broad divisions those impressions and activities that occur oftenest The pupil's acquaintance with the language should touch his experience at its most vital points

4 Handwork and other practical activities can be of great use Most of these exercises, mediated as most of them will be through several of the senses, will provide plenty of material and occasions for language teaching Games, rhymes, and poems that lend themselves to action and elementary forms of dramatisation must all find a place

5 A good part of the success of the scheme can be traced to the constant use of a wide variety of teaching apparatus

The Supply of Teachers

The second problem is the supply of suitable teachers This supply is at present dependent largely on the products of the English secondary schools It is obvious that the teachers must be bilingual and capable of taking their place on the staff of an ordinary vernacular school, for the field in which Bilingualism can be extended is undoubtedly in the vernacular schools The aim of both the English and bilingual schools at present is the English examinations, and as we observed, these have very definite limitations But an English course in vernacular schools has no such disadvantages It merely

adds a working knowledge of another language to the existing curriculum. It aims at no academic tests other than proficiency both written and spoken in the language to be acquired. As the system extends it might relieve the present pressure on English schools and divert the energies of many pupils to more useful work.

Training Colleges and Schools

A brief reference to the present arrangements for training teachers will indicate the inadequacy of the existing conditions to meet a reasonable and widespread demand for a working knowledge of English. The curriculum of training schools and colleges has not in the past been much affected by the demand for bilingual education. Training institutions (of which there are a large number in Ceylon) were established to supply the needs of either English or vernacular schools, so, like the schools, most of them originated as purely English, purely Sinhalese and purely Tamil training schools. As the demand for bilingual education grew, spasmodic attempts were made to create bilingual training schools, but these met with a chequered career owing to the fact that the bilingual school aimed at the academic standard of the English school, which could easily recruit its staff from either the English or vernacular training schools.

It is only comparatively recently that the bilingual student has come to be regarded, *not* as one who has to be equally competent in two languages, but as one who attains a good working knowledge of a second language, without aspirations to academic proficiency in his second language. As this idea emerged the system of optional courses of English in vernacular schools became a feature of the educational system. These courses aimed at no high standard of proficiency in English, but they met a real need, and to-day, the supply of teachers for such courses is one of the most pressing problems of the Department of Education.

Sources of English Teachers for Vernacular Schools

Various suggestions have been made to meet this need. The admission into vernacular training schools of students who have received their academic training in English schools, or who otherwise have attained to a competent knowledge of English, has helped in supplying a number of useful teachers. The introduction of English as a subject into vernacular training schools has also done something to help, although it is doubtful whether the policy of superimposing an intensive course in a second language on an already crowded professional training will yield fruitful results. The third method in use at present is to employ as teachers pupils from English schools who have reached the standard of the Cambridge Senior, or London Matriculation examination. Such teachers rank as uncertificated and have received no professional training. They are consequently cheap, and the popularity of these examinations in Ceylon produces a considerable number of such students who are on the labour

market. It is difficult to forecast the ultimate solution of the supply of English teachers for vernacular schools, but assuming that the problem of the right teaching method is near solution, that the most suitable textbooks have been chosen and that a carefully graduated curriculum has been drawn up, it may be found advantageous to arrange for short intensive training courses for the many unqualified teachers who are at present employed in this work.

The Two Stages of the Problem

We have indicated earlier that the bilingual problem in Ceylon has passed through two stages. These correspond to stages in the history of English education in Ceylon. In the earlier days, when English education began to be taught seriously and the great English colleges were founded, the problem was, what was the quickest way of getting students, who started with little or no knowledge of English, to attain such a command of the language and its literature that they could obtain the only recognised certificate of proficiency, namely the degree of an English university? This was the only passport to power and social position. Hence every attention was paid to speedy methods of rescuing the student from the vernacular medium and immersing him in the English medium without undue loss of school time. There was a tendency to neglect the vernacular mother tongue on the assumption that the sooner the student could be soaked in the English tradition, English ways of thinking—English history, Latin and Greek and everything that went with a truly English education, the sooner could he be changed into a little Englishman. This was the policy not only of the English schools but also of the bilingual schools. The aim of both was the utmost efficiency in the English language and naturally teaching through the medium of English was resorted to at the earliest possible moment, and success or failure was judged by the results of the English university examinations. But some years ago the reaction set in. The vernaculars were being neglected. They had no academic appeal for the English universities or the Cambridge Syndicate examinations. They were in danger of being thrown aside in the scheme of higher education as something of no value. It is true that the vast majority were still receiving an elementary education through the medium of their own mother tongue. But there was a danger that many of those who had attained to high positions through their English education would forget, or scorn, the language of their childhood. There was the danger that the languages of the country would, in spite of their antiquity and history, be relegated to such a subordinate position that those who spoke them would also be branded with the stigma of inferiority.

The Rise of Academic Bilingualism

This reaction led to the recognition of Tamil and Sinhalese in the London and Cambridge Syndicate examinations, and also to the study

of these languages as a regular part of the English school curriculum. But the bilingual problem still remained the same. The reaction we have spoken of scarcely affected it. The problem was still one for the English and bilingual schools. The only difference was that a high standard of proficiency was now required in two languages. So there arose what may be called a system of academic Bilingualism. But there gradually emerged a new idea of Bilingualism—the idea of a good working knowledge of English independent of academic aspirations. The academic aim of an English education was, in Ceylon (and possibly in other colonies) one of its chief defects. It was bound hand and foot by the subjects and standards of examinations which were devised to meet the needs of a country which, socially and economically, was different from Ceylon, and it thus prevented for many years the growth of what may be described as a healthy economic Bilingualism. By this we mean the spread of English as a second language for other than academic purposes.

Economic Bilingualism

We have already referred to the enormous value of English as a medium for trade and inter-racial communication, of its value as opening the window from which millions can look out upon the Empire and the World. These values can be secured by other methods than those employed by academic Bilingualism. In short, Bilingualism must become more and more a problem belonging to vernacular schools. It is here that a good working knowledge of English can be disseminated without the fetters of the academic tradition that attaches to the English schools. This is the line of advance for Bilingualism in Ceylon, and the fact that it is recognised is clearly indicated by the reports of the Education Department. But it remains not merely an educational problem. It is an economic problem of the first importance, and as the Director of Education points out it has serious financial implications. But there is little doubt that a progressive policy, carefully planned out, and covering a number of years, would effectively spread a good working knowledge of English through the medium of the vernacular schools.

Ceylon would thus gain an economic and social asset which has long been withheld through the persistent association of English teaching with the academic aim of secondary education.

L. MACRAE

CHAPTER THREE

POLICY AND METHODS WITH REFERENCE TO BILINGUAL PROBLEMS IN BRITISH MALAYA

Introductory

“THE Malay Peninsula has been one of the greatest centres of migration in the world, and this fact has naturally influenced its educational problem”¹ In a previous volume of this YEAR BOOK a sketch has been given of the political mosaic that is British Malaya and of the heterogeneous components of its population of four and a half millions² Some recapitulation of that sketch here will serve to indicate the bilingual, or rather multilingual, problems with which Malayan education policy is faced

British Malaya comprises the Crown Colony of the Straits Settlements—Singapore, Penang (with Province Wellesley), Malacca and Labuan, the Federated Malay States of Perak, Selangor, Negri Sembilan and Pahang, and five independent Unfederated States which accept British protection and advice—Johore, Kedah, Perlis, Kelantan and Trengganu The growth of British influence throughout this peninsular patchwork of small States and Settlements is the history of Malaya during the last one hundred and fifty years The early trading ventures of the sixteenth and seventeenth centuries were followed by the first permanent settlement, the occupation of Penang by Francis Light in 1786 Singapore was acquired by Sir Stamford Raffles in 1819, Malacca finally transferred to Great Britain in 1824, while the Federated and Unfederated Malay States accepted British protection at various dates in the latter half of the nineteenth, and the early years of this century

This period of growing British ascendancy has been a period also of rapid and remarkable development The dominant position of Singapore on the highway from west to east led inevitably to its rapid expansion as a trade emporium and centre of immigration, while the development of tin-mining and of rubber plantations throughout the Peninsula has attracted a great influx of eastern peoples The 1931 census enumerated over seventy races in the Peninsula

Racial Distribution

The main racial groups, however, may be classified as in the table, the figures being approximate and estimated from the 1931 census From the table it will be seen that the three main racial groups with which Malayan educational policy is concerned are the Malaysians, Chinese and Indian, the combined totals of Europeans,

¹ H. A. Wyndham, *Problems of Imperial Trusteeship*, page 199

² 1934, pages 827–57 (Now approximately five millions)

	EURO PLANS	EURO STATES	MALAY SIAMS	CHINESE ¹	INDIANS	OTHER RACES	TOTAL
Straits Settlements	14,000	12,000	340,000	750,000	160,000	12,000	1,298,000
Federated Malay States	9,000	5,000	680,000	980,000	480,000	20,000	2,054,000
Total Straits Settle- ments and Fede- rated Malay States	23,000	17,000	1,020,000	1,630,000	620,000	32,000	4,352,000
Unfederated Malay States	2,000	600	1,200,000	400,000	125,000	30,000	1,757,600
Combined total for British Malaya	25,000	17,600	2,220,000	2,030,000	745,000	62,000	5,109,600

Eurasians and others (mainly Siamese, Ceylon peoples and Japanese) amounting only to some 2 per cent of the population. There are no separate Government schools for Europeans, or for any of these smaller groups.

The Malaysian Element

The *Malaysian* is, broadly speaking, the indigenous element, and represents some 40 per cent of the total population, with Malay as its language. Its main constituent, more than four-fifths of the total, is the peninsular Moslem Malay, but it comprises also immigrant Malaysian elements from Java, Sumatra and other parts of the Archipelago and some 30,000 aboriginal jungle-dwellers, who are gradually adopting the Malay language.

The Malays are essentially a rural community, and their main occupations are agriculture and fishing. The proportion of Malays to other races is small in the larger urban centres of the Straits Settlements and Federated States, and increases as we proceed to rural centres and districts. The Unfederated "rural" States of Kelantan and Trengganu on the east coast may be described as truly "*Malay*," their population of over half a million including only some 50,000 of other races, mainly Chinese.

Malay is the language of this group in all States and Settlements. Such dialectic variations as are to be found in the east and north of the Peninsula offer little obstacle to intercourse, and a Kedah and Singapore Malay can converse without difficulty. Malay is the language of court and *kampung*¹. It is, with English, the official language in the Unfederated States, and is also a *lingua franca* for all races in urban centres. For many of the Straits-born Chinese (who form a considerable proportion of the Chinese population of Penang, Malacca and Singapore) Malay is the mother tongue. But the use of Malay as a *lingua franca* is confined to the simplest essentials of intercourse, and there could be no question of

¹ Village

imposing Malay as a vernacular language upon immigrant peoples in any universal Anglo-Malay bilingual system

In the Straits Settlements the Malay vernacular schools (described below) are *in theory* open to children of all races, but only a few non-Malaysian children attend, and only in districts where no school of their own vernacular exists

The Chinese Element

The *Chinese* component of Malaya's population exceeds two millions, and is now almost as numerous as the Malay. It predominates in all urban areas of the Straits Settlements and Federated States, and has penetrated to all parts of the Peninsula, the energy of Chinese miners, agriculturists, fishermen, merchants and craftsmen having played a large part in the rapid development of Malaya. There are many tribes—mainly immigrants from the southern maritime provinces of China—with a consequent complexity of languages, customs and characteristics, but the five principal communities are Hokkien, Cantonese, Hakka, Tiu Chiu and Hailam. For the immigrant Chinese (as for the Indian) Malaya is, in prospect at least, only a land of sojourn, a land where fortune may be sought with a view to return to the mother country. There is a slowly increasing tendency to permanent settlement, but on the whole the Chinese, even when settled in Malaya, retains his national outlook. Malayan Chinese have, for example, made large contributions to South China relief funds in the present crisis, and identify themselves with the fortunes of China in the Japanese struggle, so far as political restrictions will permit.

The Indian Element

The *Indian* element, now approaching three-quarters of a million, is equally complex. To quote from the 1931 Census Report: "The problem of racial classification of Indians is at least as formidable as in the case of Chinese immigrants." Some five-sixths of the immigrant Indian population is, however, Tamil. Tamils, Telegus and Malayalis from southern India form a labour population for estates scattered throughout the Peninsula, and for the Department of Public Works, while the middle classes become clerks, contractors and merchants. Punjabis, Bengalis and other northern Indians find employment as police and watchmen, and there are also some Gujaratis, Mahrattas, Gurkhas and Burmese in various occupations. As with the Chinese, the Indian population is to a large extent migratory and its fortunes vary with the fluctuations on Malaya's main industries—tin and rubber.

The Anglo-Vernacular Problem

Such then, in brief, is the racial and linguistic complexity of Malaya—a medley of indigenous and immigrant peoples, living in remarkable harmony under British protection, and yet retaining their own languages and customs and to a great extent their own national out-

look Educational policy is here not offered the simple alternatives of (a) instruction in the vernacular language of the country, or (b) instruction in English, or (c) bilingual instruction. For while it is recognised that the earliest instruction should be in the vernacular, no single vernacular will serve the polyglot races of the Peninsula.

The problem is complicated by the fact that there is, among all races, a widespread desire to learn English. (It is the writer's belief that, were free English education everywhere available, the vernacular schools would, save in the outlying States, be almost deserted!) This desire, very pronounced in the case of Chinese and Indians, might appear, from the English school figures given below, not to be so marked in the case of Malays, who are given special facilities. But it is to be noted that the Malay, while he derives an easy subsistence from a generous soil, has little ready money, and cannot in general provide even the few dollars necessary for the transport and subsistence of his child at an educational centre away from his village.

This demand for instruction in English was largely fostered during the past century, when the clerical needs of the rapidly expanding trade and major industries of Malaya made the possession of even an elementary knowledge of English a passport to lucrative employment in Government or business offices. And despite the lessons of trade depressions and periodic overcrowding of clerical professions, there is no doubt that the belief in English as an "Open Sesame" still persists. It is inevitably stimulated by the growing contacts of West and East—by cinema, wireless, the press, rapid transport and communications. And in all professions, and practically all trades, the employer requires from his clerical and *technical* staff some knowledge of English. In the urban centres English has become, though not perhaps yet to the same extent as Malay, a *lingua franca*, and the place of English in social and economic life, in the Straits Settlements at least, is firmly established.

Outline of Government Education Policy

To meet the needs of these various racial groups in vernacular and English education the following policy has been gradually evolved by the Education Department.¹ *There are no bilingual schools*.² Omitting religious schools, which do not come within the scope of this survey, and vocational schools, which are dealt with later, Malayan schools are classified into

(a) *Vernacular Schools*, in which the medium of instruction is a

¹ The actual sphere of the Malayan Education Department is the Straits Settlements and Federated Malay States, and the policy here outlined has particular reference to this sphere. The policy of the Unfederated Malay States, however, follows more or less the same lines.

² There is one small "Malay" school in the State of Perak where the teacher is Siamese and the pupils study partly in Siamese and partly in Malay, and there are a few small Tamil-Telegu private schools on rubber estates, but these are minor exceptions to the general policy, which is as stated.

vernacular language—Malay, Chinese, Indian respectively, each confining itself to its own vernacular

Of these the *Malay vernacular school* is the prime concern of Government

(b) *English Schools*, in which the medium of instruction is English, for all races

Practically all vernacular education is primary or elementary, with the exception of a few Chinese secondary schools and the Sultan Idris Training College for Malay teachers, which are referred to below

The choice of *Malay*, among the main vernaculars, as the medium of instruction in *Government vernacular schools* was predetermined by the obligations of Government to the indigenous people of the country, as well as by the position of Malay as a *lingua franca*, not only in the Peninsula, but in many parts of the Archipelago. Malay education is provided free for practically all Malaysians, and for a few children of other races in special circumstances. The vernacular schools of the immigrant races (Chinese and Indian) are primarily the private concern of these communities, or, in the case of estate labourers, their employers, but Government exercises a general control and gives financial assistance by grants-in-aid where certain regulations as to buildings, health and curricula are complied with. There are now also a few Government Chinese and Indian schools in urban centres.

With regard to the spread of English schools the problem of Government has been to *control*, rather than stimulate, the demand, to differentiate between commercial centres where the product of English schools might be readily and usefully absorbed, and rural districts where the dangers of over-Westernisation are obvious, and to guide the provision and extension of secondary (as distinct from primary) education in English along the lines best adapted to the social and economic structure. It is recognised that uniformity of policy as between the Straits Settlements, which are largely commercial (excepting Malacca), and the Malay States with their wide rural areas, is neither necessary nor desirable.

In both, however, the aim is to give, either in Government or in Government-aided mission schools, an elementary English education at as cheap a rate as possible¹ for all races, and *free* for Malay children under certain conditions mentioned later. Secondary English education is provided, so far as requirements and Government finances permit, at a somewhat higher rate².

Vernacular Schools

(1) *The Malay Vernacular School*

There are now few Malay communities without a vernacular school. The following are the statistics for the Malay schools of

¹ At present the fees are \$2 50 (5s 10d) per month

² At present \$4 00 (9s 4d) per month

the Straits Settlements and Federated States for 1937, the enrolment being given in round numbers.

	BOYS' SCHOOLS	PUPILS	GIRLS' SCHOOLS	PUPILS	TOTAL SCHOOLS	TOTAL PUPILS
Straits Settlements	171	22,000	48	3,500	219	25,500
Federated Malay States	483	17,000	81	6,000	564	53,000
Total	654	69,000 ¹	129	9,500	783	78,500

¹ The enrolment in boys' schools includes some 12,500 girls (3,000 in the Straits Settlements and 9,500 in the Federated Malay States), so that more than a quarter of the Malay school population is female

Attendance is compulsory, except in Singapore, for Malay boys who live within reasonable distance (1-2 miles) of a vernacular school. The school attendance enactments vary slightly in different States, but, in general, a Malay boy must attend school from the age of 7 till he has at least passed Standard IV or until superannuated at the age of 13 or 14. There is, however, little need for the enforcement of these enactments, as the Malay has everywhere shown keenness for vernacular education, and the supply of vernacular schools can hardly keep pace with the demands. There is no compulsory attendance for girls, but here, too, enthusiasm has grown greatly of recent years. Although there is no policy of co-education, girls attend boys' schools so far as accommodation permits in districts where no girls' schools exist, but such attendance is limited to the age of 12, and is (as is essential in a Mohammedan community) entirely voluntary.

All Malay schools are built, equipped, maintained and staffed entirely by Government, except in the "experimental" stage, when a local community which desires a school provides a temporary building, which is used (with Government teachers and equipment) for a year or two until the need for a permanent building proves itself.

Except in Singapore the Malay vernacular school is a rural school and the curriculum is adapted to rural conditions. The aim of these schools "is first, to give a general and practical education to boys who will remain on the land and find occupation in local agriculture, and to those who will probably find employment in work that does not require a knowledge of English, and secondly, to give a sound education in the vernacular on which an education in English can be built to pupils who wish to proceed eventually to an English school."¹ While no deliberate attempt can be made at

¹ Annual Reports, Straits Settlements and Federated Malay States, 1936

this early stage to supply vocational training, the ordinary primary school curriculum is supplemented by activities that will foster an interest in agriculture and village life and occupations generally.

The subjects of the curriculum are reading and writing (both in Arabic and Roman script) composition, arithmetic, Malay history, geography, hygiene, physical training, gardening, basketry and other local crafts. Girls receive special instruction in needlework and other handwork, hygiene and (in some districts) domestic science and cookery. The great majority of the Malay schools have flower and vegetable gardens, and many of the latter are excellent.

While attendance is compulsory only till the passing of Standard IV, the demand for continued vernacular education has led to the widespread introduction of a Standard V, so that the normal length of the Malay vernacular school course may at present be taken as five years. In some districts a Standard VI has been introduced, and while there were in 1937 in the Straits Settlements only 300 pupils (mainly in Malacca), and in the Federated State of Perak 160 pupils, attending Standard VI, the desire for an extension of the Malay vernacular curriculum is growing, and the problem is at present under consideration.

Malay is the medium of instruction throughout, and English is nowhere taught during the regular school hours. The teaching of English as a subject in Malay vernacular schools would conflict with the policy outlined above, and, even if desirable, would necessitate a large English-speaking Malay staff which is not available. The Malay parent, if he wishes an English education for his child, has two alternatives:

(a) He can send him direct to an English school between the ages of 6 and 8, neglecting his vernacular education, and paying fees as do the children of other races. This method is naturally not encouraged, but in any case comparatively few Malays are in a financial position to adopt it.

(b) If the child passes his Standard IV¹ (in Selangor Standard III) Malay school examination sufficiently well to hold out promise of success at an English school, he may be admitted, free if under the age of 11 and as a paying pupil if older, to the "special Malay classes" of the nearest Government English school. The scope of the "special Malay classes" is described below, in the survey of English schools.

In a few centres the experiment has been made of afternoon classes in English for selected Malay vernacular school pupils likely to proceed to English schools, while in Singapore a central Standard VI was formed in 1936, where, in addition to the usual school subjects and carpentry and handwork, selected pupils were given five hours

¹ For Malay girls a pass in Standard III Malay only is required, and, as no "special Malay classes" for girls exist, they are drafted into appropriate primary classes at English schools. Few Malay girls, however, have as yet proceeded to English education.

per week tuition in English, which is essential for boys seeking employment in shops and offices in Singapore

(u) *Chinese Vernacular Schools*

The Chinese, to whose ubiquitous activities Malayan trade and major industries owe so much, have also, and more than any other race in Malaya, shown enthusiasm in providing their own educational facilities. The educational revival in modern China has been reflected in Malaya, and Chinese vernacular schools have grown up in great variety during the past quarter of a century, free schools maintained by individual generosity, schools run by associations of immigrants from the same district in China (and mainly for the benefit of children from their home district), Christian mission schools, and (the majority) schools managed by local committees from funds raised by public subscription. The policy of Government, as stated above, is to assist the schools of immigrant peoples by grants-in-aid where grants are applied for and certain regulations as to sanitation, management, staff and curricula are complied with, the following statistics from the 1937 Annual Reports of the Straits Settlements and Federated Malay States give some indication of how far Chinese vernacular education is Government-aided, and how far self-supporting (the enrolment figures are approximate)

	GOVERNMENT SCHOOLS		AIDED SCHOOLS		NON AIDED SCHOOLS		TOTAL	
	SCHOOLS	PUPILS	SCHOOLS	PUPILS	SCHOOLS	PUPILS	SCHOOLS	PUPILS
Straits Settlements	—	—	75	16,800	109 ¹	23,800	177	40,600
Federated Malay States	2	385	303	28,000	251	11,000	456	40,385
Total	2	385	378	44,800	360	34,800	738 ²	80,685

¹ The Straits Settlements total of non-aided schools includes three Japanese schools

² Most of the above schools are mixed, and in the Straits Settlements there are 30 and in the Federated Malay States 19 separate schools for girls. More than 25 per cent of the school population is female

Grants-in-aid, based on average attendance, in two grades and at higher rates for secondary than for primary departments, in 1937 amounted to approximately

Straits Settlements	\$125,000
Federated Malay States	\$160,000 (half-year only)
Total	\$285,000 (£33,250)

All but a few Chinese vernacular schools are of primary grade, and the general standard is still low. The diversity of types of schools and the many dialects have inevitably proved a hindrance to progress and the development of a general policy. A class may contain pupils speaking two or three different dialects. Two factors, however, have fortunately combined to overcome the problem of dialect. By constant association in and out of school the children become to a certain extent bilingual or even trilingual and can usually understand any of the commoner dialects. Of far greater importance, however, has been the introduction of recent years of *Kuo Yue* or *Colloquial Mandarin* as the *almost universal* medium of instruction in Chinese vernacular schools—a development due to the National Language Movement which started in 1920.

The full course of Chinese vernacular education, to be supplied through the medium of *Kuo Yue*, is as follows

(a) Kindergarten	2 years	} Primary
(b) Lower Primary	4 years	
(c) Upper Primary	2 years	
(d) Junior Middle	3 years	} Secondary
(e) Senior Middle	3 years	

At present, however, the great majority of schools provide only a six-year primary course, i.e. (b) and (c) above, kindergarten classes being confined to a few schools in Singapore and Penang and secondary departments to some twenty schools in the urban centres of the Peninsula.

In the primary curriculum modern readers have superseded the Chinese classics, and the art of penmanship, formerly so important in Chinese education, is neglected. Arabic numerals have replaced the Chinese in arithmetic. Handwork, painting and drawing are taught.

The universal demand of the Chinese in Malaya for a knowledge of English has led to the *teaching of English as a subject in almost every school from the first year onwards*. The general standard of this English teaching is low, and by Government regulation it is now necessary for a registered teacher of English in a Chinese vernacular school to hold at least a Cambridge Junior Certificate, and preferably a School Certificate. While it is felt that this introduction of a Western language in the earliest stages of vernacular education is undesirable, it should be remembered that immigrant races in Malaya have as yet no facilities, similar to the "special Malay classes" for Malays, for merging into the English schools after a vernacular training.¹ The alternatives for an immigrant child who wishes to learn English are (a) to go direct to the primary class of an English school, forgoing vernacular education, (b) to gain

¹ A very few Chinese vernacular school pupils do enter the secondary classes of English schools.

some elementary knowledge of English during vernacular education, as is done in Chinese vernacular schools, (c) while attending an English school, to attend also, in the afternoon or evening, a vernacular school—a procedure bad from the point of view of the child's health, but which is difficult to trace or eradicate. The question of providing a post-vernacular door to English education for children of Chinese and other immigrant races involves considerations of Government's obligations to other than indigenous peoples.

The fees charged for primary Chinese education are small (1s 2d to 2s 4d per month) and in cases of poverty are remitted entirely. For secondary classes the fees rise in some cases to 9s. 4d per month. The total number of pupils, however, in secondary schools or classes in 1937 was only some 2,650, i.e. 1,350 in the Straits Settlements and 1,300 in the Federated States. These secondary pupils, about one-third of whom were girls, were nearly all in the junior middle grade, only one school in Singapore and one in Penang having begun the senior middle course. (Mention is made below of post-primary and other normal classes.) In general, the ultimate aim is to provide secondary education in Chinese up to a standard corresponding roughly with the School Certificate class in English schools, through the medium of Colloquial Mandarin, and to teach English up to the same standard.

With a view to improving the standard of education in Chinese vernacular schools generally, and to achieving some measure of uniformity, an annual inter-school examination was instituted by the Education Department in 1935, which is taken compulsorily by pupils in all Government and aided schools, and voluntarily by some non-aided schools, at the end of the primary course and of the third year of the junior middle course, the subjects of examination being Chinese, English, mathematics, history and geography. This examination appears to be gradually achieving its object, and is a useful guide to the Department in assessing progress.

(iii) Indian Vernacular Schools

The great majority of Indian vernacular schools, as the above racial statistics would suggest, are *Tamil*. They have grown up on rubber and other estates throughout the Peninsula and are all, except a few Government schools, under private management. By Ordinance "The controller of Labour may require any employer on a place of employment where ten or more children of any one race between the ages of 7 and 14 years, being dependants of labourers on such place of employment, reside, to construct and maintain at his own expense a school for such children." Grants-in-aid, based on average attendance, are given by Government to approved schools which satisfy certain requirements of buildings, sanitation and efficiency. The following are the approximate statistics of Indian vernacular schools for the year 1937

	GOVERNMENT SCHOOLS		AIDED SCHOOLS		NON AIDED SCHOOLS		TOTAL	
	SCHOOLS	PUPILS	SCHOOLS	PUPILS	SCHOOLS	PUPILS	SCHOOLS	PUPILS
Straits Settlements	—	—	11	2,360	25	1,000	66	3,360
Federated Malay States	13	1,150	382	16,500	87	2,350	182	20,000
Total	13	1,150	423	18,860	112	3,350	548	23,360

The above are practically all mixed schools and about one-third of the pupils are girls. The assistance given by Government in the form of grants-in-aid in 1937 was

Straits Settlements	\$16,373
Federated Malay States	\$105,878

Total \$122,251 (approximately £14,263)

Indian vernacular education is free, except for a small fee (1s to 2s per month) charged in some private schools. The only schools in the above total of 548 which are not purely *Tamil* schools are seven Telegu schools (five in Perak and two in Selangor), nine mixed Tamil-Telegu schools (six in Perak and three in Negeri Sembilan), one Gurkha, one Sinhalese, two Malayalam, two Oriya and one mixed Tamil-Oriya. These are all small private schools in which primary instruction is given to pupils, so far as possible, in their own vernacular.

Instruction in Indian vernacular schools is everywhere confined to the primary grade, and the standard is nearly everywhere low, although it varies greatly from school to school and is, on the whole, improving. The full projected course lasts for six years—one primary year, and five standards, but it is seldom that children attend for so long, and few pupils are to be found in the higher standards. There were, for example, in 1937 only some 650 pupils in Standard IV, and less than two hundred in Standard V. The Tamil labour population is to a large extent migratory, the supply of good teachers (as explained below) is difficult, and the development and efficiency of the schools suffer accordingly. Progress in this direction has, however, been recently made, and Government has restored the appointment (abolished during the recent slump period) of European Inspector of Tamil Schools, with special training in India.

No English is taught in these schools. The subjects of instruction through the vernacular medium are reading, writing, dictation, arithmetic, and in the higher classes, composition and geography. It should be pointed out here that nearly twice as many Indian children as Malays attend the English schools of the Peninsula, and that, although the procedure is discouraged by the Department, there are

in some districts Tamil children attending English schools in the mornings and a vernacular school at other hours. Especially strong among the clerical Indian classes is the desire for English education for their children, and parents with large families will often spend a considerable proportion of their incomes (as much as 20 per cent) on English school fees. The policy of Government, however, particularly in other than urban centres, is to foster and encourage vernacular education for the vast majority of the immigrant Indian population.

English Schools and Vernacular Languages

The English schools of Malaya are schools in which, through the medium of English from the earliest stages, a pupil may progress from the primary department to the Cambridge School Certificate class, either by advancing from an elementary school to a central secondary school (the usual procedure in Government schools in the larger centres) or in the combined primary and secondary aided schools of the various missions. There are many private schools, particularly in the Straits Settlements, run more or less on the same lines as the Government and aided schools, but with a few exceptions they achieve a much lower standard of education, and their total enrolment is comparatively small.

English schools are open to all races, and the approximate nationality figures of Government and aided schools for 1936¹ will indicate in some measure the heterogeneous composition of the English school population.

RACE	STRAITS SETTLEMENTS		FEDERATED MALAY STATES		TOTAL	
	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS
Chinese	11,850	5,100	5,700	2,600	17,550	7,700
Indians	2,000	820	3,190	1,500	5,190	2,320
Malays	1,380	140	2,280	330	3,660	470
Europeans and Eurasians	1,520	1,440	530	440	2,050	1,880
Others	230	230	100	100	330	330
Total	16,980	7,730	11,800	4,970	28,780	12,700

In a comparison of the three main racial groups of the Peninsula, the above figures should not be taken to indicate merely a preponderance of desire for English education among the Chinese as contrasted with Malay or Indian, but rather the relative economic condition of the communities in general and their relative numerical

¹ Straits Settlements, 57 schools (including 16 for girls), Federated Malay States, 48 schools (including 13 for girls)

proportions in the urban and commercial centres where all the larger English schools are situated

These figures also reveal the impossibility of any *bilingual* system in the English school. The linguistic diversity is, indeed, much greater than they suggest, for while the classification has been reduced to a few main groups, it is possible to find, in one primary class of an English school, pupils speaking seven or eight different languages or dialects. Some of them may have a rudimentary knowledge of Malay, or of more than one Chinese dialect, but there is no common *lingua franca* that could form the basis of a second language. Direct methods of teaching English have therefore to be employed, and nowhere in the English school is a vernacular introduced as a medium of instruction for general subjects.

Pupils in general are admitted between the ages of 6 and 8 years, but for the promising Malay child, as has been indicated above, there have been provided in Government English schools "special Malay classes" which enable an English education to be built on a vernacular foundation. These special classes are somewhat analogous to the "link schools" of the Netherlands East Indies. They extend over two years. The Malay child of ability who passes his fourth vernacular standard before the age of 11 is admitted free to the first special Malay class, and may also gain a subsistence scholarship which will continue, if he merits it, throughout his English school career. During the two years of the special course, Malay pupils receive intensive instruction through the medium of English, and are then admitted to Standard III or IV (and in a few cases Standard V) of the general English school course, according to ability. In the Federated State of Selangor the qualification for admission to these special classes is the vernacular third standard, and the special course lasts for three years. In 1937, there were approximately 1,000 Malay pupils in special Malay classes, two-thirds of the total being in schools in the Federated States.

Provision is made for the Malay pupil, after his special English course, to resume the study of his *vernacular as a subject* in the English school curriculum, and all Malays who reach the highest classes of English schools take Malay as a language in the Cambridge Local examinations.

The fees at English schools for races other than Malays, and for Malays who are over age for special classes, have been mentioned in the statement of policy above. In addition, free English education is given both in the Straits Settlements and in the Federated States (but to a lesser extent in the latter) to children of immigrant races who have proved their ability in the lower classes of English schools and whose financial circumstances are such as to merit assistance, while there are also scholarships of various types, mostly private benefactions. Somewhat more than 10 per cent of the pupils in Government and aided English schools received free education in 1936, of these, the Straits Settlements total of 2,500 included roughly

20 per cent Malays, while Malays made up approximately two-thirds of the Federated States total of 2,900

As a general rule, there is no provision for the teaching of vernaculars other than Malay as *subjects* to pupils at English schools, but where qualified teachers are available and departmental sanction is obtained, Chinese and Indian pupils in the higher secondary classes in some centres receive instruction in their vernaculars out of school hours, usually in preparation for examinations. And in practice, many such pupils offer the vernacular in the Cambridge Local examinations after preparation under the guidance of a member of the school staff, or private study.

Raffles College, the nucleus of a Malaya University, does not as yet make provision for the higher study of any of the Peninsular vernaculars, and while vernacular education is still almost entirely in the primary stages, the need or demand for such higher study has not yet made itself strongly felt.

The Vernacular and English in Vocational Education

Vocational education in Malaya is of comparatively recent growth. It is the subject of a present inquiry, and the lines of its future development are under Government consideration. The existing institutions in the Straits Settlements and Federated Malay States, apart from a few evening classes, are

A Professional

(i) *The Technical School* (Kuala Lumpur), in which the medium of instruction is English

(ii) *The Malayan School of Agriculture* (at Serdang, near Kuala Lumpur), which provides two courses, one through the medium of English, and one through the Malay vernacular medium

B Industrial

(i) *The Government Trade Schools, Singapore and Penang* (and one Mission Trade School, Singapore) in which the medium is English

(ii) *The Government Trade Schools, Kuala Lumpur, Ipoh and Malacca*, in which the medium is Malay

(iii) *The Government Carpentry School, Bagan Serai* (Perak), in which the medium is Malay

It will be noted that two media are employed in vocational training, English and Malay, and the following is a brief survey of the above institutions so far as relevant to the racial and linguistic problem.

The Technical School

The Technical School at Kuala Lumpur, the capital of the Federated States, is the only Malayan institution offering full-time instruction in higher education of an engineering nature. It serves the whole Peninsula, and accepts students of all races, mainly Government

students in training for technical posts in the public works, railways, electrical, posts and telegraphs and survey departments. The various courses in engineering and technical training given all necessitate a knowledge of English, and the requirements for admission are a good secondary education in *English* and mathematics, and if possible elementary science. All instruction is given in English. In May 1937, there were 83 students, of whom 33 were Malays, and all except 20 were free Government students. The demand for admission greatly exceeds accommodation, and at the end of the year 1937 there were 126 students.

The only other instruction of this type, but of a much more elementary character, is provided in Government evening classes. These evening classes in Singapore, for adults, give courses in engineering, machine design, surveying, chemistry and plumbing, all through the medium of English, and nautical courses mainly through the medium of Malay.

The Malayan School of Agriculture

This school is conducted by the Department of Agriculture. It serves the whole of Malaya, and accepts members of all races, the 80¹ in residence in 1936 comprising 48 Malays, 30 Chinese and 2 of other races. Those attending the two-year course, in which the medium of instruction is English, are designated "students," and the aim of this course is "To give the student a sound general training in Malayan agriculture with an adequate knowledge of the pure sciences which form the foundation and framework of scientific agriculture." For a "student" the requirement for admission is at least a Cambridge School Certificate.

The one-year course for "pupils," given through the medium of Malay with such simple use of English as is required, offers a training of a much less advanced type, and the qualifications for admission are the completion of the Malay vernacular school course or the Fifth Standard at an English school.

Government provides "major" and "minor" scholarships for the respective courses, and there are also other scholarships, so that less than half the members in residence in 1936 were fee-paying. Selected Malay "penghulus" (headmen of villages) attend the school for a week annually before proceeding elsewhere for instruction in rubber, copra and rice.

The Government Trade Schools in Singapore and Penang

These provide three-year courses in general mechanics, electricity and plumbing, and are open to all races, the majority of the 200 pupils in 1937 being Chinese. The fees are 7s per month, paid by all but a few free pupils. For employment in these vocations a working knowledge of English is essential, and in the urban centres of Singapore and Penang there is no lack of applicants for admission.

¹ 48 "students," 32 "pupils."

to the trade schools who have completed an elementary, and in some cases even a secondary, education at an English school. The medium of instruction is English. Students who have completed these courses readily find employment, and the growing realisation of vocational training as a promising sequel to elementary English education is having a salutary influence on the native attitude towards English as a professional or clerical touchstone—an influence that will increase as the vocational policy expands and meets economic requirements.

The Government Trade Schools in Kuala Lumpur and Ipoh

These provide a three-year course in which youths are trained to be fitters and motor mechanics, while the Ipoh School also has a tailoring section. In Kuala Lumpur (and in Ipoh until 1937) preference was given to Malays, the 1937 statistics being Kuala Lumpur 107 students, of whom 102 were Malays, practically all free and receiving in many cases a subsistence allowance, and Ipoh (at the beginning of the year) 75, of whom 57 were Malays receiving similar assistance. Recently the Ipoh Trade School has reserved 50 per cent of its accommodation for other races.

Most of the students know no English on admission, having come from Malay vernacular schools, but there are a few who have completed the elementary English school course or reached the lower secondary classes. The medium of instruction is Malay, but in view of the need for some elementary knowledge of English in these vocations, English is taught *as a subject*, and is studied also in evening classes, and the essential English terms are, of course, acquired during practical work.

The Government Trade School, Malacca

This serves a rural area, and provides training in carpentry and tailoring, the majority of its seventy-six pupils in 1937 being Malays. The fees are small (2s 4d per month), while assistance is given to deserving students. The medium of instruction is Malay, but elementary instruction in English is given to pupils admitted direct from Malay vernacular schools, who have no previous knowledge of the English language.

The Government Carpentry School at Bagan Serai (Perak)

This is a small rural school composed of pupils from Malay vernacular schools who are given, through the medium of Malay, a free three-year course in carpentry and cabinet-making, with the aim of making them village handymen, or enabling them to compete in their craft with immigrant craftsmen. There were only thirty-four pupils in 1937, the low enrolment being due perhaps not so much to Malay lack of keenness for the craft, as to poverty. No subsistence allowance is given, and the Malay from surrounding districts cannot usually afford to maintain his child at a school away from home.

The above vocational survey will have revealed that while the vernacular can be used in elementary vocational training, and for this purpose Malay serves as a *lingua franca*, some knowledge of English is desirable, and in *all advanced work essential*

The Supply and Training of Teachers

The only types of schools in Malaya for which the supply of locally trained teachers is reasonably adequate are the Government Malay vernacular boys' schools and the Government and aided English schools. For schools of the immigrant vernaculars there are still few local facilities for training teachers.

(1) Malay Vernacular School Teachers

For teachers of this type the Malay vernacular school naturally forms the source of supply. Pupils, usually 14-15 years of age, who have passed their fifth vernacular standard, are selected in the first place as pupil teachers and are employed under supervision in the village schools at a salary of from £21-£25 per annum, attending district training classes where available, or studying under trained teachers. In Negri Sembilan there is a four-year course in several centres where selected young pupils who pass their fifth standard with credit receive free tuition, and help in the schools with a view to selection for higher training.

The central institution for the training of male Malay teachers is the Sultan Idris Training College (at Tanjong Malim, in the heart of the Peninsula), which serves not merely the Straits Settlements and Federated States, but accepts also small numbers of students from the Unfederated States, and from Brunei and Sarawak. Admission to this college is by competitive examination (with a quota for each State), which pupil teachers are required to pass between the ages of 16 and 18 years, successful candidates receiving free tuition and subsistence. In 1937 there were 365 students in residence.

The three-year course here provides the only secondary training in the Malay vernacular obtainable in Malaya, and includes the ordinary school subjects, theory of teaching, handicrafts and gardening and practical teaching at the practising school attached to the College. In school subjects the vernacular standard aimed at approximates to the Cambridge School Certificate. There is a Translation Bureau which, among other duties, prepares vernacular textbooks and translates into the Malay vernacular a variety of novels and books of general interest. Mention should also be made of a fourth-year post-graduate course for selected students in Malayan arts and crafts.

In general, it may be said that the wide training and other activities of the Sultan Idris College, supplemented by subsequent courses for trained teachers in various centres and by the work of universal and active Malay teachers' associations, produce Malay vernacular teachers "who are establishing contact with the life and homes of the village, and enlisting the whole-hearted support of the com-

munity, of which they are, as they should be, both the servants and the leaders " ¹

The 1937 statistics of trained and untrained male Malay teachers in the Straits Settlements and Federated States were

	TRAINED	UNTRAINED	PUPIL TEACHERS	TOTAL
Straits Settlements	524	103	175	802
Federal Malay States	1,141	132	207	1,480
Total	1,665	235	382	2,282

As is natural in a Moslem community, female education is a much more recent growth, and while enthusiasm for girls' education is strong and growing, the training of women teachers for Malay vernacular schools is still in its early stages, and all but a few women teachers are still untrained. In 1935, however, a residential Malay Women's Training College was opened in Malacca, which had in 1937 an enrolment of 25, drawn from the Straits Settlements and Federated States, the students had been pupils in vernacular schools and receive free tuition and subsistence. The two-year course includes general subjects, domestic economy, hygiene, handwork, drill and games, and theory and practice of teaching. For untrained teachers there are classes provided in various centres of Malaya.

(ii) *Chinese Vernacular School Teachers*

The qualifications of Chinese vernacular school teachers vary considerably, and, as has been mentioned above, the local facilities for training are still limited. In the "new-style" schools, which form the great majority, many of the teachers registered to teach Chinese, including nearly all who have received an education higher than that given in the lower middle school, completed their education in China. For aided schools, the qualification required for registration as a Chinese vernacular teacher in primary departments is the Junior Middle Certificate, while most of the teachers in the larger urban schools have come from universities in China or had normal training in that country. It has been found that teachers who have come from China, while better qualified hitherto than the local product, are frequently less desirable politically. Government requires any registered teacher of English in a Chinese school to have passed at least the Cambridge Junior Examination or its equivalent, and 90 per cent of such teachers have graduated from local English schools.

There are now recognised post-primary normal courses in the Straits Settlements and in Selangor and Perak, aided by Government

¹ 1937 Annual Reports

and providing in four years a simplified training, based on the simplified normal course as prescribed in China. The medium of instruction is Colloquial Mandarin, and the subjects of the curriculum, recently drawn up by the department, include the general principles of education, subject-matter and teaching of the elementary school, simple educational psychology, elementary school administration, educational tests and practical teaching. There were some 400 students in these classes in the Straits Settlements in 1937, and 125 in the Federated Malay States. About 25 per cent of the Federated Malay States students, and *all* the Straits Settlements students, were girls. Up to the present it has been found that locally trained male teachers cannot in the Straits Settlements compete with the trained product from China.

Of approximately 3,400 registered Chinese teachers (Straits Settlements 1,800, Federated Malay States 1,600) in 1937, about one-third might be considered as trained.

(iii) *Teachers in Indian Vernacular Schools*

The supply of Indian vernacular teachers in Malaya presents a difficult problem towards which the comparatively low salaries which this type of work commands¹ and the migratory nature of the semi-educated teachers widely employed have in great measure contributed. The following are the main types to be found in the Peninsula (few of whom have had an adequate, or any, professional training).

(i) English-educated men from India who have taken up teaching as a final resort in default of more lucrative employment.

(ii) Immigrants who have adopted teaching as a permanent vocation, and who know little or no English. A few of these are trained and do good work.

(iii) English-educated immigrants who accept temporary employment and are rarely satisfactory.

(iv) Estate staff, who function as teachers in their spare time—with little success.

There are, however, increasing numbers of trained teachers from Southern India seeking employment.

Until recently there were no local facilities for training of Indian vernacular teachers, but there have now been instituted free normal classes in Kuala Lumpur to provide a two-year course, through the medium of Tamil, for selected teachers from vernacular schools (and a few others). Most of the thirty students have passed at least their Eighth Vernacular Standard in India, and there are a few with Cambridge Junior or School Certificates. The curriculum includes theory and practice of teaching, Tamil language and literature, arithmetic, geography, hygiene, handwork and physical training, and the aim is to produce teachers at least as well qualified as the holders of the Indian Higher Elementary Grade Training Certificate,

¹ The average salary is about £30 per annum.

except for proficiency in English, with which this course does not concern itself. If this experiment proves successful, it is intended to open similar normal classes in other centres.

Of 800 Indian vernacular teachers in the Straits Settlements and Federated Malay States in 1937, less than a quarter held training certificates.

(iv) *Teachers in English Schools*

The racial diversity of pupils in English schools is reflected also, as one would expect, among the staffs. Of approximately 1,500 teachers in Government and aided English schools in the Straits Settlements and Federated States in 1936, about one-sixth were "Europeans"¹, the remainder, the "local staff," may be classified as follows:

	STRAITS SETTLEMENTS		FEDERATED MALAY STATES		TOTAL	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Eurasians	72	160	38	61	110	221
Malays	28	—	24	—	50	—
Chinese	267	105	132	49	399	148
Indians	100	12	166	20	266	32
Others	12	11	6	4	18	15
Total	477	288	356	128	833	416

Facilities for the training of local English school teachers have been adequately supplied by Government, and of the total staff indicated in the above table, all may be classified as "trained," with the exception of some sixty students either in or awaiting training. While there are now two sources of supply of locally trained teachers (the more recent of which, Raffles College, is referred to below), the great majority of the local staff have been trained in free normal classes held in various centres throughout the Peninsula. With few exceptions, students in these classes, while of all races, indigenous and immigrant, are locally born and locally educated. The qualifications for admission as a "student teacher" (enrolment being limited to local requirements) are a Cambridge School Certificate or its equivalent, with credit passes in at least two of the subjects, English, mathematics, history, geography and drawing, and a satisfactory mark in oral English, intending students must be at least 16 years of age. The normal course extends over three years, and the subjects of instruction are English language and literature, the theory and practice of teaching, hygiene, physical training and,

¹ The term "Europeans" includes British (about 190—mainly in Government schools), and some American, French, German and others (in aided mission schools).

in some centres, at . Throughout the course student teachers spend at least two hours daily in the classrooms of the schools to which they are attached, studying teaching methods or themselves teaching prepared lessons. The satisfactory completion of the three-year course and passing of the final examination qualifies the student to become a "trained teacher," but certificates are not awarded until a further two years' satisfactory teaching work has been accomplished.

There is no lack—rather a continual surplus—of local candidates for admission to these normal classes. During some years of recent economic depression, when the supply of trained teachers was more than adequate, normal training was suspended, and the present normal courses, both in the Straits Settlements and Federated Malay States, are for women students, to make good the heavy wastage of female staff for primary departments.

The training of local staff for middle and secondary classes in English schools is now provided at Raffles College, Singapore. On completion of the three-year diploma course, selected students are given a year's post-graduate course in education. There is close liaison between the College training department and the Government Education Department, and during their post-graduate year students are attached to one of the Singapore English schools, where the staff and other officers of the Education Department assist in their practical training.

In addition to these training facilities there is an extensive scheme of post-normal training for Singapore teachers, classes being conducted in elementary science, art, handwork, Malayan plant life and other subjects.

The Supply of Local Textbooks

The provision of textbooks specially adapted to the needs of Malaya has hitherto been confined to the Malay vernacular and the English schools of the Peninsula.

Mention has been made above of the Official Translation Bureau, a department of the Sultan Idris Training College, which, among other duties, translates, produces and publishes textbooks supplied free to pupils in Malay vernacular schools. Although much has yet to be done to meet the needs of these schools for suitable elementary texts with local colour and yet on modern lines, there is a working supply at present and the Translation Bureau published or reprinted in 1937 fourteen texts in the Malay vernacular and was engaged in the production of a new Malay grammar. All of these texts are of a primary or elementary type, and with the exception perhaps of one or two translations from English texts used at the College for students in training, there are no higher textbooks in the Malay vernacular.

In the provision of suitable local texts for English schools there has of recent years been shown a welcome enthusiasm among officers of the department and experienced teachers, and among the many books written locally and produced and published by private enter-

prise are series of readers, courses in grammar and composition, Malayan arithmetic, geography and history texts, tropical hygiene and nature study. Other texts are in preparation, through local or home publishers, and a continued advance in this direction is assured.

There is no local production of texts in Chinese or Indian vernaculars. (The latter are all imported from India or Ceylon and there is no early prospect of local supply.) The Chinese texts used in vernacular schools all come from China, and are mostly published by two companies in Shanghai. In many cases their ordinary series of texts, while possibly suitable for China, are unsuitable for Malaya, and both these companies have now issued textbooks for local Malayan use in Colloquial Mandarin. All of the Chinese texts are, however, "nationalistic" in outlook, and lay stress on the pupils being citizens of China, but while this is a drawback from a Malayan point of view, attempts to produce local Chinese texts have hitherto proved unsuccessful. For the teaching of English as a subject in Chinese vernacular schools a few institutions use Shanghai publications of English texts, but the majority follow the English schools of the Peninsula.

General Observations

The above survey has, it is hoped, indicated that the main linguistic educational problems of Malaya arise from the following:

(i) There is no vernacular *lingua franca* that will serve as a universal medium of instruction for the polyglot races of the Peninsula.

(ii) Immigrant peoples outnumber the indigenous in practically all the more populous centres, and have been largely responsible for the development of Malaya. The exact educational obligations of Government to the indigenous and immigrant vernaculars, respectively, are therefore not easily determined, and the problem grows with an increasing tendency to permanent settlement by the immigrants.

(iii) Immigrant peoples (especially Chinese) tend to retain their nationalistic outlook, and the present supply of Chinese vernacular textbooks encourages this tendency.

(iv) The indigenous (Malaysian) element is, by temperament and tradition, at a disadvantage in the modern economic struggle, and immigrant traders and craftsmen on the whole have monopolised the more lucrative occupation of the Peninsula. How far Malayan vernacular educational policy may remedy this it is as yet too early to speculate.

(v) The universal demand for education in English has been in the past associated with the (often justified) belief that a knowledge of English would lead to lucrative, clerical, and other sheltered employment. Changing economic conditions are to some extent correcting this, but the belief dies hard.

J. B. NEILSON

PART EIGHT

A Survey of Technical Education

SECTION ONE

The Status of Technical Education

CHAPTER ONE

INTRODUCTORY SURVEY

A THE RENAISSANCE OF TECHNICAL EDUCATION

TECHNICAL education, hitherto in educational systems something of a step-child, is rapidly being promoted to first in favour. Two causes have been working to produce this.

The first is the outcome of our present educational situation. The ways into and out of secondary education are overcrowded. Unemployment among those who have been secondary school trained for intellectual careers is in many countries an actual danger, while in only a few is the possibility of the danger recognised and taken into consideration.

A training up to 18, or even to 22, which takes no account of a practical experience in life is increasingly regarded as an unsuitable method of educating the mass, and even for a selected group it is beginning to be suspect, unless some such practical interlude forms part of it. The older universities themselves are discussing the advantages of a year's practical experience between school and university. The training of the hand, long neglected in favour of that of the mind, is regaining its importance. Schools, until lately strongholds of liberal, abstract, humanistic education, are erecting workshops. These, and like tendencies, are significant of the new order of values now establishing itself.

But a strong impulse has come from a different cause. If Minerva, the goddess of learning, has been responsible for the first, Mars, god of war, has fathered the second. The years 1937 and 1938 have given an impressive object-lesson of the fact that wars depend more upon skill than courage. The workshops producing new and dreadful engines of war are the true strongholds. And workshops, even with the best equipment, are ineffective without millions of skilled hands.

Further, with the increasing threat of aircraft to all means of communication, the effort of each country to secure its economic independence in the event of war is proportionately multiplied. This makes a further demand upon technical education. Every

country will be attempting to produce all it needs, from raw material to finished product, inside the "fortress" which many countries are seeking to become.

Educators have to face this situation, even though they may hope that the danger is overrated. But hope and fact belong to different worlds, and after the breakdown of Geneva we may have to look forward to years of panicky action. During this period technical education will be in the foreground.

Even supposing that by some miracle peace should be established for a long period, technical education will still remain the favoured child of both rulers and peoples. Developed productive power is recognised as the safest source of wealth—not guns, but hands produce prosperity.

Raw materials, even coal and cotton, are of unstable value—even where they are abundant to-day, floods or draughts can make them scarce, and mines and petrol springs may one day be exhausted. But a high quality of production ensures the safest form of national wealth, and such production depends upon effective technical education.

Japan and Russia afford us the latest examples of that which technical education can effect, and in a surprisingly short period. Japan in thirty years, Russia in a much shorter time, have evolved semi-skilled and skilled labour to the degree needed for a large-scale technical production. Both have now reached the second stage of development—the production and education of foremen, constructors and inventors.

Alternatively, the great exhibition held by the Italian State, in December 1936, for its Congress of Technical Education in Rome, demonstrated impressively the close connection between technical education and military provision. It seemed dominated by the one idea—preparation for war.

Shells or looms, tools or bombs, as products of industrial processes, have this one element in common—they postulate thousands of skilled, reliable and adaptable hands. Almost millions of young hands which in earlier days would have been tilling the soil are to-day turning steel, and their number will increase.

The wave of interest in technical education is steadily rising. India and South Africa, Australia and Canada, and even the United States of America are sending their experts to the highly developed technical countries of Europe. More will follow.

The Berlin Congress for technical education, 1938, still further demonstrates this renaissance, and the inquiries and deliberations of the International Labour Office are contributing to the same end.

B WHAT IS TECHNICAL EDUCATION ?

The question would receive a different answer from educationists and from those not concerned with education. An economist might be satisfied with the definition that technical education trains the

hand for the use of those tools, instruments and machines which modern production needs and has invented

The Attitude of Educationists

For the educationist the answer is not so simple. We have been accustomed to place technical education third in our order of educational values. Education up to a university standard has been placed first, secondary education, in its more restricted sense, leading on to banking, offices, commerce, has stood second. And after these two has come what was called Technical Education. It implies a course which removes children between the ages of 12 and 14 from the line of general education, modifying their curriculum with handicraft or other technical elements. It leads on, in some countries, to the higher technical schools, or through several years of apprenticeship—at times combined with continued school education—to the career of foreman or even of second-grade engineer. Here the line ends as in a blind alley, because the higher forms of career, even in industry and commerce, are in most countries reserved for the students who come from the "first line" of education, that of the university.

The Problem of Selection

There is a second aspect to the question, the selective. The admission to a course of technical education is in most countries not based upon any specific discrimination between the intellectual and the practical type. Because it offers better prospects of advancement, every selective system in effect directs all "A" quality children into the line of the university. It seeks by every means, including scholarships, to give the "best child the best chance", and the best chance is understood to mean the line which leads to the best scale of salaries.

The "B" quality of children is also in great part directed towards the university entrance examination, even though, from that point on, the bank or the office may have to be the choice. In this, again, material and social advance is the deciding factor.

Thus, from the selective standpoint, the mass of children undergoing technical education has been once, and even twice, drained of its best. The type of child "selected" among the remainder for technical education represents more or less the "B or C Child". It is a medium and tending to a lower-grade type, as selected by scholastic standards.

The Social Aspect

There is a third aspect, the social. When we consider the mass of children from the point of view of the parents' means, one group at the bottom of the scale has to be eliminated, the children from very poor homes. In such families the children's earnings form an

important item in the weekly budget. From the day upon which compulsory schooling ends, the child has to make a lightning change from a learner into an earner. Often apprenticeship is found too expensive, in the sense that it deprives the family of the weekly wage, even if it be only the wage of an unskilled juvenile. Technical education in such cases, if it be given at all, ends at 14-15. If it be begun during the school time, it must remain only a fragment. So it happens that, in the elimination of this group, many more children of fine type and character are excluded.

At the other end of the scale another, larger, group is removed. Well-to-do families are concerned that their children should be educated at secondary schools, and, if possible, at the university. It would often be regarded as a come-down to give them a technical education, supposing a higher form of schooling to be within their means.

The same social considerations also affect the quality of the staffing and teaching. To become a secondary school teacher has greater attractions for a student teacher or graduate, and technical school teaching, as a choice, ranks some way behind.

Not infrequently the social difference is emphasised by the scale of salaries in vogue. Technical school teachers, even in higher-grade schools, receive less than their secondary colleagues.

Inferior Status of Technical Education

We find the same thing as soon as we turn to the fourth aspect, the inner value of the curriculum, as a means of developing the best qualities in pupil or student.

Technical education suffers from having no respectable origins! The university and the secondary school can trace their descent from mediæval schools in which the traditions of humanistic learning began. Even the primary school has an old family tree, dating back some centuries, and surrounded with vigorous traditions.

Technical education, on the other hand, was in most countries instituted as, in a way, an inferior branch. The only exception has been that of the United States of America, where in 1862 Abraham Lincoln courageously inaugurated an education of the labouring classes inclusive of technical education with a proclamation that sounded strange to the Europe of his time. The Morrill Act of 1862 confirmed it with a large grant of State lands.

"The endowment, support and maintenance of at least one college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislature of the State may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

Abraham Lincoln had stated three years before, in his famous speech in Wisconsin:

"The old general rule was that educated people did not perform manual labour. They managed to eat their bread, leaving the toil of producing it to the uneducated. But free labour says NO. Free labour argues that as the Author of man makes every individual with one head and one pair of hands, it was probably intended that heads and hands should co-operate as friends and that that particular head should direct and control that pair of hands. As each man has one mouth to be fed and one pair of hands to furnish food, it was probably intended that that particular pair of hands should feed that particular mouth, that each head is the natural guardian, director and protector of the hands and mouth inseparably connected with it, and that being so, every head should be cultivated and improved by whatever will add to its capacity for performing its charge."

Abraham Lincoln was entitled to speak in such terms. He was the first leading statesman of a great country since the days of early Rome to have himself experienced the blessing of a handicraft training. Nor was the earlier American tradition unfavourable to this move. Washington, Jefferson and Franklin were all members of an organisation whose seal bore the motto "Venerate the Plough."¹

The only other example at all comparable to the Morrill Act appeared in the Fisher Act of 1918, when England was attempting to strengthen her technical education. It proposed—

"a complete and systematic plan of further education in each area, properly related to elementary and secondary schools and universities, adapted to local needs and particularly to industrial needs, and offering to every student facilities for a graduated and progressive course of instruction suited to his or her requirements."

The day when this scheme was dropped must remain a black-letter day in the history of European education.

Reason for Prejudice against Technical Education

What is responsible for this resistance in Europe to a strong technical education, if America for seventy-five years and Russia for fifteen years have been promoting it? We have mentioned some causes, and perhaps the most powerful would seem to be the prejudice attached to working for a living, more especially with the hands. The medieval notion of some superiority of the "man of independent means" is still by no means dead. It survives, ghostlike, into our modern times, although those very times have been changed in all fundamentals by the man who works with his hands and who is proud of doing so.

To this prejudice yet another has to be added, which emanates from the same family. The conception of "liberal, humanistic, disinterested" study, and of the scholarship which rests upon it, is in opposition to study more immediately useful for the vocation or career. The university aim (and as a result the secondary and even the primary school aim also) is to form first the "background" of

¹ Cf. Edwin E. Slosson, *The American Spirit in Education*, Yale, 1921, page 223.

a man, to make him strong and resistant against the temptations of purely material advantage. He is to learn to act from the depth of his convictions and is not to be influenced by the thought—what shall I gain or lose by this or that course? By a singular misconception it has come to be assumed that this independence of character is secured by a liberal education, but is endangered by a "technical education."

All the evidence contradicts this. Take any fifty highly skilled tool-makers or metalworkers, and compare them with the same number of university-trained middle-class bank clerks, officials and doctors. It will be hard to show that in character, independence and enterprise the second group is superior. In this respect, at least, technical education needs no defence—it can form character no less effectively than other educational branches.

Definition of Technical Education

We are arriving, then, at our conclusion as to what is meant by the term Technical Education. Technical education is being given in any school system in which tools and practical instruments are introduced with the intention of giving an experience which can be applied in later life. Where this practical experience takes up a large proportion of the school time, the borderline from the school subject handicraft to technical education has been crossed. Manual or craft education by itself is not technical education. To deserve this title, to manual and practical education must be added the teaching of the principles underlying the practical doing, and the accordant training of the mind.

Under this definition we include every kind of practical training for a career, and the training for leisure. Although industry may be the prevalent career followed, technical education should not be understood to be limited to a preparation for it. It prepares for all the four great branches of human activity—industry, manual crafts, agriculture, housecrafts (housekeeping and cookery). In each of these four branches, technical education has begun as soon as, in a school, tools or gardens have been introduced for more than the playtime of the child, and for sufficient weekly periods. In each of the four branches, also, it ends only with the higher forms of university specialisation.

So interpreted, technical education will be seen to be the proper method of education for at least 70 per cent of the future population of our Western countries, that is, if housekeeping, perhaps the oldest of crafts, is given due recognition by its inclusion.

C THE ELEMENTS OF RESEARCH AND PLANNING IN TECHNICAL EDUCATION

Every other educational branch, primary, secondary, university and even adult education, has a clear list, sometimes even graded,

of its traditional problems. If we attend any one of the many national or international congresses, the same problems recur, the discussion follows traditional lines, and even the terminology is fixed. Technical education, however, is breaking new territory, and the student is faced with all the difficulties attendant upon a pioneering adventure.

It is the nature of those who attend congresses on technical education to lend more weight to actions than to words. They are accustomed to measure by results, and not by logical arguments.

But we must look forward now to a time which will demand more discussion and more planning, so that we may avoid mistakes and learn from one another. The different groups of problems will need clearer definition.

The substance of these problem-groups is familiar, and their enumeration can contain little new. But it may serve to make the student of general education, belonging to another field of educational thought, acquainted with the problems, and help him to rate technical education more nearly at its proper value. The country which first admits technical education to full rights in its educational system will profit proportionately.

The situation with regard to technical education is similar to that existing when the new applied sciences, particularly chemistry, waited for recognition by the older universities, in the middle of last century. France and England were in the first half of that century the leading countries in chemical research. The advisability of applying the results of this research to production, and therefore of replacing, or at least enlarging, humanistic studies accordingly, was recognised. In 1836, Arago, in France, expressed this by saying, "One cannot make sugar from sugar-beet by admirable speeches, and Alexandrine verses cannot extract soda from sea salt."¹

But Germany was the first country to note the practical application. Liebig, Bunsen and others built the foundations upon which Germany has developed her system of technical universities. Germany even recalled one of the best pupils of Liebig, Hofmann, from London, to erect university laboratories in Berlin and Bonn. Germany owes to-day a great part of her chemical, scientific and technical equipment to this early planning, which has not only produced new laboratories, but a new type of mind, the specifically scientific. In a material sense the profit to Germany was immense. Astier-Cuminal² states that during the year 1906-7 the German annual foreign trade in chemical materials and products amounted to 1,127,000,000 francs, as compared with 278,000,000 in France. In fifty years Germany had converted her chemical inferiority as compared with France into an impressive superiority in the world.

¹ Cf. Astier-Cuminal, *L'Enseignement Technique*, Paris, Roustan, pages 384 ff.

² *Op. cit.*, page 387.

markets. This illustrates in how far every well-planned investment in technical education can increase the national revenue.

To-day the world is faced with a similar situation. The watch-word has changed—it is now—"One cannot produce machinery for a sugar-plant by philosophy, or by Greek verses make a motor-car cheap and reliable." It is not the mind but the hand, not the scientific genius but the toiling masses, not laboratories but labour, not chemical products but that more important product, a highly skilled, happy and harmonious humanity which is in question. Technical education can again offer the solution. Here are some of the problems presented to it. A few have been solved, but the majority are still untouched.

The Elements of Technical Education

The Adventure of Co-operation

While other branches of education are shut off, like a monastery, behind walls and fences, technical education exists only by and in co-operation. It can never be restricted to a schoolroom. All attempts at organising a technical school as a separate cell have failed, and must fail.

A teacher who has not learned the art of co-operation is unfit for this branch of education. He will have to co-operate with trade, with farming, with crafts, with trade unions and with employers' associations. If he cannot, he is of no effect as a teacher.

There is co-operation needed also on a higher plane. The technical school is a product of its own environment, and as a plant is of its soil. It is a symbiosis. The environment nourishes the school materially, and the school, in its turn, serves the interests of the environment. It fulfils by its nature a primary function of the education service. The technical school renders service to a given combination of conditions. Its aim is never an individual one, to give to a particular boy a particular training. It must always be to give to the economic enterprises of a locality their most vital essential, a younger generation rightly trained. Such local enterprise resembles the work of the mediæval guilds associated in building a cathedral. The generations, younger and older, are linked in a continuity by the work and its purpose, the past and the future have the same part with them. And it is this same spirit which we find in some of the great centres of technical education, not expressed in so many words, but reflected in the inner attitude and in the readiness to co-operate. Co-operation is also inherent in the method. Technical training is bound to combine into one lively unit the classroom, the laboratory, the workshop, the factory and the field, each leading back again to the scientific magazine or book. By it the men of action and of learning are united in a team, and with a team-spirit. Learning and doing collaborate profitably.

In a sound system of technical education all age-groups, from the 12-year-old to the crafts master, are combined by their common

study and aim. Similarly, the connection between school and old student is kept alive, not artificially, but in the natural course of their common work.

Some technical school systems, however, disregard this essential principle of co-operation. They accompany apprenticeship with a school that is no more than a continuation of the bookish type of primary school, thus creating unending difficulties, and producing that great evil of the bookish school during puberty, school fatigue.

But the technical education which we envisage, with its co-operative interests, runs little danger of school fatigue. It cannot occur where the relationship between teacher and student must continue to be one of co-operative action. One may dictate from books, but one has to collaborate on the bench and in the field, if anything of a past experience is to be transmitted from master to learner. This applies also to the purely school part of technical education.

Many more modern schools are following the co-operative method more or less successfully, and we may expect that technical education will in a few years have made an important contribution towards a more general adoption of the co-operative method. And not only in schools, but already in certain countries as a whole, technical education has proved to be one of the rare fields in which a close co-operation between labour and management has been achieved. To create "the collective conscience of the trade" was once said to be one of the tasks of a thorough technical education.¹

This sentence is taken from the report of a Congress—Lyons, October 12th-15th, 1921—which was a turning-point in French technical education. Very little had been done before in this line in France. Five hundred delegates came together from all parts of France, and everyone was convinced that something had to be done immediately. There was much clear French analytic thinking. No other literature about technical education contains so much "food for thought."

Under the strong leadership of Edouard Heurtot, three main points were achieved, which now form the cornerstone of the new French technical education system. These are, the self-administration of technical education, in spite of the rigid centralised system, the co-operation of employers and workers on equal terms, and the adaptation of the German system of Chambers of Trade and Commerce to French conditions. This report has been of great help in coming to a clearer understanding of the problems which face a country in its first stage of transforming a vacuum into an effective system of technical education.

Self-administration and its Constituent Members

Technical education develops best where the central or the local government leave a large measure of freedom to its administration.

¹ Cf. *La Formation professionnelle*, Paris, November 1921, page 43. This special issue of *La Formation professionnelle* is devoted to the Congress on Apprenticeship Questions, Lyons, October 12-15th, 1921.

Bureaucratic rules or interference in its control destroy that spirit of lively co-operation which is the basis of sound technical training. Even France, a country in which the rest of public education is strictly centralised, has given to technical education no inconsiderable measure of administrative freedom.

We may therefore quote France as a noteworthy example. In every district and in every town a special council for technical education has been established. All these councils send delegates to the yearly meeting of the central council for technical education. The central council is rather a parliament than a committee, and has the right to deal with all questions of technical education, and to make its own proposals. The district or town councils for their part have the function of supervising the education and particularly the quality of the apprenticeship instruction. They have to decide upon the *tax d'apprentissage*¹. They can free a craftsman or a factory, if their apprenticeship training be good, from this tax. They can even allocate scholarships and subventions, as a recognition of especially good apprenticeship training.

The control of the apprenticeship tax is not only in itself an important duty for technical self-administration to discharge, it also serves every year to bring home the responsibility involved in such self-administration to the consciences of all concerned.

The maintenance of the self-administrative principle is vital, if there is to be any effective educative control over the quality of the apprenticeship training, or even if, as now in Germany, the duty of apprenticeship training is imposed upon all industrial enterprises. No central or local administrative authority could attempt to manipulate such delicate adjustments without destroying the inner vitality in which all the value of the training lies. Even France, the first country to dissolve, during the French Revolution, her guilds and trade organisations, found herself compelled to reintroduce them, and to leave them their freedom, when it became imperative above everything to revive apprenticeship training. Again, no serious form of apprenticeship examination is possible, unless the various administrations of trades and crafts and labour are left free to exercise the right of examining their apprentices. If only for the reason that, in many countries, apprenticeship contracts, no less than the results of the final examinations, are not held to be valid unless they are entered on the registers kept by the chambers of commerce, by the trade or by similar bodies.

It is not possible to fix by scheme which organisations ought to be represented upon any one of these autonomous administrations. As a general rule, any organisation concerned should be considered entitled to send its delegates.

When France initiated this educational self-administration, it was Edouard Herriot, the fervent friend of technical education, who stood passionately for a full parity between employers' organisations and labour unions. France owes to this the inner harmony and

¹ See the YEAR BOOK OF EDUCATION, 1937, pages 723 ff.

development of her technical education. It could not have been achieved without the admission of workers' and trade unions to the privilege of equal representation.

Since the list of members of such a self-administrative body should be a true mirror of the inner co-operation essential to a good technical training, it should normally comprise representatives of the chambers of commerce, the crafts, the farmers' organisations, the trade unions, the central and the local government, the staff of the technical schools, and last but not least, a strong body representing the past students and graduates in technical education. This last representation is of great importance. It continually revitalises such a self-administration with a younger, fresher element, and strengthens it with the experience of those who have found the value of their technical training when they became practising journeymen or labourers.

The introduction of such a method of self-administration into a branch of the educational system calls for very careful preparation. It can only be done gradually. The central authority must always be prepared to withdraw the administrative freedom, wholly or in part, from any district or town where it may be proving a failure. It is the young students' interests which must be first considered. But a liberal and understanding attitude on the part of the central authority is, of course, essential to the whole scheme, and not only in such cases. The attitude of the local authorities is no less vital to success. They are by no means always a safeguard against bureaucratic or political influences. An observer would sometimes be justified in thinking that of the two, the central authority is the more liberal-minded.

The Role of the Government

The authorities, local or central, would be well advised to pay increasing attention to the position of technical education. There are various ways in which they can assist.

To begin with the simplest, technical education needs nothing more urgently than an efficient apprenticeship training. Every factory or other productive unit which provides such an efficient apprenticeship system does so at a considerable sacrifice. There is the financial cost, the difficulty of fitting the system into the works, and the loss involved in releasing some of the best foremen and specialised workers to conduct the training. The State or the local governments should use their own productive units for this purpose, and let them serve as models. Their influence would soon extend the practice to private concerns.

But the authorities can do more. They can make their orders dependent upon a satisfactory solution of the problem. This indirect influence would be of twofold effect at times like the present, when public orders, such as those for armaments, are playing a leading part.

Railways and similar enterprises, where they are not publicly owned, are always to some extent under government influence. They should be brought to see that it is in their own interest to produce a larger number of highly trained apprentices.

The State can do more than it does at present to stimulate the apprenticeship system. Technical scholarships should be given, and of such amount as to place them on an equality with those for secondary schools.

In selecting the personnel for official or semi-official services or institutions, graduates in the different types of technical education ought to be placed on the same footing with secondary school products.

An increased assistance by the State and the local authorities to technical training will not only produce a great effect upon crafts and upon industry, farming and housekeeping, it will also in time restore the educational equilibrium and reduce the serious overcrowding of the black-coated professions, a social danger which no government can afford to ignore.

The attitude of the educational central administration is all-important. As in France, it should concede considerable autonomy to technical self-administration. This would mean in many countries a complete reversal of the general educational policy. None the less, an efficient technical education cannot function without such liberty. Of all the branches of education technical education is the most certain to suffer from any bureaucratic interference.

It may, in this respect, act as a pioneer, in enlarging the bounds of educational autonomy, and of self-administration in general. This was the principle that guided Condorcet in his famous educational proposals during the French Revolution. The truth which is now in process of realisation in French technical training Condorcet perceived nearly 150 years ago, only to have his proposals completely submerged under the many changing forms of French centralised education.

A special function in the relationship between governments and educational institutions can be discharged by the agents of regular contact between the two—the inspectors. In technical education, more especially, they need to speak and to act as advisers and intermediaries, and not as superiors. French technical education has already recognised the importance of this attitude in practice. The Instructions for the Inspectors are a good example of a human outlook.¹

The attitude of the inspector should be the reflection of a like restraint and toleration on the part of the central office. The principles of self-administration and of co-operation should find there their centre.

Should this central authority be the Ministry of Education? The answer is not as obvious as the layman might be inclined to think. There are national Ministries of Education so orien-

¹ Cf. *Code de l'Enseignement Technique*, Paris, 1932, pages 30 ff.

tated towards an abstract type of education that they could never develop or maintain a flourishing technical branch. A method which requires an amalgamation of school and of practical life is difficult to combine with a method which takes only school and child into account. Historically, the control has shifted to and fro between the Ministries of Education, Trade, Economics and Labour. Germany has twice, under Bismarck and under Hitler, shifted the control from the Ministry of Education to that of Economics. Both Bismarck and Schacht, the Ministers of Economics of the time, were dissatisfied with a position which classed technical education as only a "School" problem. Again, agricultural education sometimes forms a part of the Ministry of Agriculture, and sometimes Ministries of Labour are responsible for divisions of it.

Technical education suffers from this unsettlement, no less than from the rivalry of other educational branches. Here, again, France would seem to have found a satisfactory solution, by creating an independent Under-secretariat of State for Technical Education (Law of June 20th, 1920). This is housed in the building of the Ministry of Education, and itself acts as a liaison office.¹ Herriot has given us clearly the motives behind this decision.² After the legislation for technical education contained in the Loi Astier (July 25th, 1919), the question remained as to which Ministry should be responsible for its realisation. The competition between the Ministries was solved by the above arrangement, which has, in fact, proved very successful.

An autonomy granted to the Technical Education Office has this great advantage: it enables it to explore solutions of the problems of the relationship between self-administration, local administration and the central authority, without the restrictions of tradition and of established rules, such as are apt to hamper Ministries already habituated to one type of educational administration and to fixed types of schooling.

Adaptation to Conditions and Prospects

Adaptation is one of the main conditions of an effective technical education. In its case it cannot be claimed that the more there is of it, the better. A technical education system which continues to pour out its graduates into a desert of unemployment is soon forced to contract. There are only two possibilities for it: to adapt itself completely to conditions already existing, or, step by step, to secure an alteration of the conditions.

Of these, the first is the simpler, and must, in fact, always form the beginning. In planning technical training, a careful survey of the local and the regional production, and of the labour supply

¹ See *La Formation professionnelle*, Special Number, April 1937, page 55.

² This speech, made in 1928, is partly reprinted in *La Formation professionnelle*, April 1937, pages 27 ff.

and demand, is a necessary pre-condition. It is already required to secure the right craft traditions for apprenticeship.

But technical education has a greater task than to supply a sufficient number of trained hands to local crafts, industry or agriculture. It has the mission to prepare the way for a larger, and more efficient industry, craft or agriculture, and to induce a higher production. A surplus of highly skilled hands has a magnetic power. In every country there are certain districts where this or that quality is best produced. In former times this was due to a craft tradition. Now it is more usually due to some prominent school, institute, or other form of technical training. Scandinavia, northern Italy, certain parts of South Germany, the eastern part of Switzerland and districts of middle or northern England are known for such local skill, perfected by the particular local schooling.

In former times the location of the raw materials was decisive, the mines attracted the industries. But the situation of good technical schools is to-day more important than the presence of raw materials. The latter are abundant in the world market, but of skilled labour there is a serious shortage.

A successful adaptation to the local conditions and to the general prospects of trade or craft will, therefore, secure for every good technical school the possibility of attracting new industries, and of introducing it, with all the possibilities that follow of forming new life bases for succeeding generations.

The Arenas of Technical Education and their Co-ordination

General school education has only one arena, the school. Even homework is a preparation for performances in the same arena. But technical education is different. Its activities shift from one arena to another, and effective results are only possible when the several scenes are well co-ordinated.

In the Greek theatre the actors and the chorus had distinct functions. We meet something of the same dualism in technical education. The main arena remains the school, but the voice of experience and the commentary upon life make a regular accompaniment during the practical work in workshops, factories, farms and households. The right co-ordination of these two scenes of work is the secret of success. In certain systems this function is discharged by co-ordinating officers, as in the Cincinnati Co-operative System, or by advisers, as in the Danish system. There is in general a growing agreement that the school and the workshop should be kept separate, and each performs its own function in its own natural environment. The idea that the school could absorb the workshop has been more or less abandoned. On the other hand, no great technical educator would advise having schools without any workshops. Well-equipped school workshops are advocated even by Kerschensteiner, the creator of the modern technical school in Germany. Inside the teaching unit they serve to concretise and to perfect. Many craftsmen are bad teachers, and

factories are often poor places for manual practice, with the result that apprentices are trained superficially or one-sidedly. A well-equipped school workshop can then be of excellent service.

In all centres for continued technical training, a really up-to-date workshop equipment is the leading force for improvement. In such centres not only the young but also the older craftsmen can be trained in the right use of tools and machinery.

This is even more true of countries seeking to introduce or improve their industry, or to modernise their agriculture. Machine and workshop provision in the centres for technical education is the first condition of success. Many countries could be quoted which now stand high technically, where technical schools discharged a genuine pioneering function, on the mechanical no less than on the theoretical side.

As soon as the new mechanical function is adequately discharged by the factories themselves, the schools have to accept the position, and to recognise in practice the superiority of the industrial unit for the manual side of this educational purpose.

Many new active agencies have been added of late years to this mechanical side of technical training: the manual instruction centres, the working-camps and the land-year activities. They replace or supplement older forms. One very old form of manual learning is reappearing in several countries: the journey made as a true "journeyman" after the apprenticeship year. In German-speaking countries this tradition of "Gesellenwandern" never died out among certain crafts and trades, and it is now returning on a larger scale.

On the more theoretical side of technical training a great variety of forms exist. There is still a form of Sunday school teaching of this character, which in South Germany goes back to the seventeenth century. On the other hand, evening schools are increasing again, after the shortening of the working day. Many technical school authorities believe that day courses are more effective. But the evening courses have this in their favour—that they are open to all at any age, and are not confined to the ages of between 14 and 19. They offer, furthermore, an outlet for the unwearied spirit of self-improvement which has so often distinguished the mass of technical students.

This variety of forms is a stimulating and attractive feature of technical training. Only a portion of them can be regulated, and many must always be left as opportunities for free initiative and for the zeal for self-improvement.

Similarly, the directing and advising of these free growths, and the contriving of frequent new combinations, offer first-rate incentives to independent-minded teachers.

Connections with other School Forms

Sometimes it is thought that primary schools with a strong manual bias should offer the best preparation for an effective

technical education. This is only partly true. There are many who maintain that a thorough general primary education, giving a grounding in the three "R's" and training thought and the intelligence, must remain the best basis also of a technical education. Some experts go as far as to say that premature manual training, with insufficient equipment and only in brief periods between other lessons, is of no educational value.

In this connection the system of classifying by educational types is again applied. The "A" boy is designed for academic, the "B" boy for higher secondary and the "C" boy for technical education. If this classification is made as early as in the lower primary school, it explains why technical educators, even at the latest stage, the technical college, are found to assert that boys who have passed through the humanistic training appear to be the better also at dealing with concrete and practical, or even technical problems.

Even bearing this in mind, we may admit that cause and effect in this matter are not yet satisfactorily established. As in many other questions affecting technical education, we can still do little more than guess unscientifically. Only by a comparison between observed experiments on an international basis shall we reach clearer results, and it is to be hoped that such experiments will soon be made.

The same uncertainty still surrounds the relationship of technical training to other school branches. In the international field there have been many isolated experiments to graft a sound technical training upon abstract educational systems, with invigorating effect. They are not seldom in need of these fresh streams of reality and action.

Sanderson, headmaster of Oundle, felt this need, and he was the first to introduce into an English public school well-equipped workshops and longer periods of manual training. The Cincinnati Co-operative System, originated by Dean Schneider, follows similar lines, with the exceptions that the workshop practice is given in the industry itself, for periods of six weeks, and that the system is applied, not only to technical, but also to abstract education. Baden-Powell, in initiating the Boy Scout movement, introduced all kinds of open-air, workshop and manual activities. The German Werkstudenten movement in 1921 from its start aimed at converting the intellectual student type, during a space of several months, into as good a labourer as might be.¹ The same idea lay behind the movement to introduce a year of practical work between secondary school and university, for every student in Germany. This was for the first time proposed by the present writer in 1931.²

But this inner kinship between an abstract and a technical

¹ Cf. the original plan Reinhold Schairer, *Das Wirtschaftsziel der Deutschen Studentenschaft*, Erlangen, 1921, pages 4-5.

² Cf. Reinhold Schairer, *Die Akademische Berufsmot*, Jena 1932, pages 96 ff.

training is by no means universally accepted as yet. Its recognition should ultimately have a far-reaching effect upon both types, but for this there must first be a change of mind. Co-operation must take the place of rivalry, and the feeling of superiority must disappear, with which the more abstract school forms still regard the intruding branch, which is taking away their boys, and the public interest and funds. Perhaps only teachers themselves are fully aware of the extent of this unfriendly competition, and it lies with technical education, accustomed by its nature to methods of co-operation, to take the lead in removing it.

Humanism in Technical Education

While technical education in free intercourse with other branches could help them much on the manual side, technical schools in turn would learn much as to the value of "Humanism in Technical Education."

Technical education can never be a fully accepted school form until it has developed this humanistic side. Improved processes of reasoning and of critical thought, of arrangement of knowledge and of scientific approach, are urgently needed in the technical branch. The reduction in working hours, especially for juveniles, offers an occasion for a fresh effort at their introduction. International co-operation could be of immense assistance in this. In most countries the former fashion of treating this problem has changed. The old method was merely to continue with the general subjects of primary education, or of secondary education, without establishing any link between them and other technical education. This was still the prevailing method when Kerschensteiner reformed technical education in Germany. It was a machine-like continuation upon the one line, which produced only apathy, resistances and school fatigue. The new method aims at effecting an inner connection between learning and practical doing, and it is found that the growing manual skill contributes a powerful lever, towards moving the burden of intellectual learning uphill with a new ease.

The effect of the reform is already apparent in certain countries. Denmark has converted the labour of agriculture into the practice of an art and of a science by the farmer. France has opened the way to its treasures of philosophy and literature for those technically educated, and in some of the English institutions of technical instruction we might get the impression that technical education and all its related intellectual problems are becoming a finer variety of game, with such interest and ardour do the boys devote themselves to the construction of a new machine, or to a new system of weaving-looms. Thus every country is advancing its technical education after its own characteristic fashion, and it is much to be desired that they should communicate mutually the results of their experiences, and thus learn from one another.

The French example is especially noteworthy. The textbooks in use for the different grades are a treasure-house of selected passages from all centuries. The selection is designed to glorify manual arts and crafts, and it is not a little striking to discover to what a degree this was done through the centuries, by the most famous writers and philosophers¹.

Of special interest also is the French plan of producing monographs about the separate crafts and trades. These constitute a new form of inspiring vocational guidance.

As soon as this new line of instruction is established, wherein study is associated with manual practice, even difficult problems, such as personal hygiene, citizenship or the right fashion of using leisure-time, can be profitably dealt with by it. Supported by the growth of the spirit of co-operation,² we may even count upon boys becoming enthusiastic students of the arts of cooking and house decorating and cleaning.

In some quarters progress is being made towards harmonising the popular conceptions of mechanics, with their so-called utilitarian outlook, with the new philosophic conceptions of the mathematico-physical field. An example would be the work of the late Sir Jagadis Bose, whose first inspiration came from his father's industrial and technical school in Vrlikampur.³ The parallelism of thought between such men as Bose, Pascal and Condorcet is indeed remarkable. All three display a like depth of feeling for Nature and for man, a like profundity in mathematics and physics. Bose's discoveries about the life of plants and their feelings throw a new light upon the materialistic or utilitarian standpoints. This promises well for the future. The new philosophy will find the ground well prepared by the developing activities of technical education and by its co-operative spirit. The popular view of mechanisation and technical progress as inimical to human development may have to be revised. The rank and file of those technically trained is even now the very reverse of degenerate. Co-operation in the national or international field has no stronger advocates, and their solidarity and readiness for sacrifices are genuine. The real trouble exists in other quarters, where power is being wielded by hands which have never been co-ordinated with the reason and with the emotions by a sound technical training.

Humanism as a leaven in technical education postulates the development of a lively community spirit within each institution or group. This aspect has been too much neglected. It is not considered sufficiently in allotting space in school edifices or in arranging individual and collective time-tables. And yet, as many as seventy years ago, Quintin Hogg saw clearly that every institution for technical training ought to possess the full equipment and the

¹ Cf. the description in the chapter "New Trends in French Education," the YEAR BOOK OF EDUCATION, 1938.

² See also under "The Co-operative Spirit," pages 37-9.

³ *The Times*, November 24th, 1937, page 16.

accommodation for the social grouping essential in community life. The Polytechnics of to-day are the fulfilment of his vision, and with their halls, reading rooms, swimming pools, theatres, debating societies, games and even travel agencies, they form a model which every large unit of technical education should be imitating.

Educating the Educators

In technical education the word "educator" is used with a wide connotation. It does not only mean the trained professional teacher. Even in the theoretical division of technical instruction, such teachers are often dividing the work with voluntary or part-time teachers, men who, as apart from their teaching, have their own professions as industrialists, officials, craftsmen, artisans, scientists, engineers, even as lawyers—needed for the legal aspects of practical careers—and as doctors, for matters of hygiene. Artists and also writers may be taking part as lecturers. In the ranks of technical education it is to be noted that this wide variety is welcomed. Life itself, and not books, forms the subject-matter, and the more elements of life that are represented, the better the training.

On the practical side of the technical instruction there is the same variety, but here the professional teachers form a distinct minority. In some countries, indeed, there is a tendency towards training teachers, or student-teachers, to take charge of this department also. But the more general bias is towards selecting first-rate craftsmen and artisans from among practical workmen and training them for this special educational function. As between these alternatives it is not easy to decide, but experience suggests that it is more possible for the trained craftsman to acquire the technique of the educator, than for the student-teacher to supplement his training by the acquisition and mastery of a skilled craft. This, too, would appear to be the order of Nature.

There is a third group, and one which calls for a fine combination of these two capacities. This is the group of the advisers, of the co-ordinating officers and of the instructors of those who have finished with the schools, and who visit the workshops, farms or other undertakings in order to advise adaptations to recent advances in scientific or technical procedure. The training of these several types is a matter of grave importance. We are still at the experimental stage, and may look for many changes of method in the several countries. The essential is to secure the right attitude of mind. Examinations will not help, nor certificates: it is the attitude of remaining a life-long learner which has to be secured. Fixed theories or dogmas are to be avoided, there must be an open mind and a ready adjustment to changing circumstances.

For the teacher, "refresher" courses or recurrent alternations of manual and intellectual training are indispensable. They serve to maintain contact with changes in technique—and every year brings new changes—and also with the changing outlook of succeeding generations of youth. In a teaching life of forty years, the whole

attitude of youth towards learning, school and teacher may have altered several times. In technical education these changes must be constantly observed, since, in it, much depends upon the "willing mind" and upon the readiness to "play the game." If this co-operation be lost, the results can have but little value. But, in this respect technical education in most countries is happily circumstanced, because it can never rely only upon compulsion; it has to prove its value again and again by its power of attracting younger or older people. Upon these terms full classes are more inspiring to the instructors than they can be upon any compulsory system.

All teaching which is given to those over 14 has now an admitted responsibility to train them in their sense of citizenship. It must inculcate self-responsibility and group co-operation. The more effectively the schools can discharge this task, the less need will remain for creating external and, it may even be, anti-school youth-groups of an educative character.

In this, also, technical education can be a pioneer. It has in its charge valuable material, the managers, foremen, farming experts and craft specialists of the future. Their influence through the coming years will be steadily on the increase, as the standards of values in work come to be readjusted and the over-rating of clerical and black-coated occupations diminishes.

For this task are needed teachers and educators of a new type: men both realistic and idealistic, susceptible to experience and, at the same time, charged with human feeling. They must be able to develop among their students a spirit of co-operation and of group responsibility. With the co-operative impulse there enters a new spring of inspiration, to action and to thought. Experiments, therefore, in every type of co-operative work and in every variety of self-education should constitute their special study. And it is a study likely to attract good men to the career, because it leads to the rediscovery of the art of educating in its fullest sense, and is in appreciable harmony with the new conceptions of social progress.

Yet another group will find in this the occasion for making their educational contribution: that of the industrialists and of the trade-unions leaders. Both these will now be prepared to acknowledge that sacrifices must be made, in order to reassociate the educational with the productive process. An industrialist, or a managing director, now recognises that money must be voluntarily spent in order to build up a model apprenticeship department, and that this must be deducted from the annual profits. The trade-union leader also now knows that the educating of a larger number to one trade will have its effects upon artificial scarcity of labour, that weapon in wages disputes. For all alike, further, the recognition that there is an educational side to the problem, that it must be considered seriously and that sacrifices must be made in its interests, will lead in time to the appreciation of higher motives as guides in the problem.

To educate these presumptive educators in this better knowledge, and to bring about their conversion to education, is the task of all those interested in technical training. It might be regarded as a mission, since it is to save souls. Any industrialist or labour leader who becomes an educator is cured of many past errors. To mention only one example, in the trade unions of certain countries the best-organised trades are found to be the strongest supporters of education for the masses and of an increase in the period of schooling, provided that it be not education in their own trade. They are fervent advocates of secondary education of the abstract type. They do not see that the result of this must be to produce an overcrowding of the professional careers, and that this in turn must lead on to dangerous political tensions or explosions. In some cases this overcrowding has been the cause of movements which were opposed to, and even endangered the fabric of, labour protection and organisation. Technical education, as a world-wide movement, has thus the task of persuading the leaders of production, whether they belong to the management or to labour, to see that the interests which they represent are best secured by their becoming active in the interests of the all-round technical education.

The Central Unit

Two countries have emphasised their concern for technical education by establishing a powerful central unit. Belgium has established its *Université du Travail*, in Charleroi,¹ and Denmark its *Technicological Institute* in Copenhagen.²

A different solution of the problem was that of Walter Gropius, Bauhaus in Dessau (1919-33). Gropius collected a group of artists and craftsmen to educate youth in manual crafts and art as developed by modern technique. The school was small, but its influence on the Continent was great. Gropius succeeded in inspiring an enthusiasm for a new tradition which has lost nothing of its significance since his work in Germany ended in 1933. In the *YEAR BOOK OF EDUCATION*,³ he introduced his ideas for the first time to English educational circles. He is now professor of Architecture in Harvard University, and his idea of the Bauhaus is perpetuated in the "New Bauhaus" at Chicago, opened in 1937. The Director is one of his prominent collaborators, Professor L. Moholy Nagy.

The function of the Central Unit is manifold. Firstly, it is the recognition of technical education as a matter of public interest, independent of other educational branches and taking rank even with a university. This has a useful publicity value. It arouses the interest and the curiosity of the higher type of boy and parent, who

¹ See the *YEAR BOOK OF EDUCATION*, 1937, pages 671 ff.

² See the *YEAR BOOK OF EDUCATION*, 1937, pages 746 ff.

³ The 1936 edition, pages 493-527.

previously were only impressed by the more academic forms. Technical education, as a later comer in the educational field, has need of such publicity.

In the same manner, the Central Unit will serve to impress the Press and the authorities and officials, and to attract a wider interest. These are surface effects. Of more importance is the work of such a Central Unit in developing methods, for all grades of technical education, adapted to the special conditions of each country or district.

Methods of technical education can never be transferred mechanically from one country to another. Its second element, the economic conditions of production, differs in each district. It is itself a synthesised product, and has two component elements of the same value, the educational idea and the conditions of production. To amalgamate these two effectively and to observe them continuously is the main function of such a Central Unit. A single isolated school, limited in its budget and in its staff, can never do this.

A Central Unit has, in fact, the same function in the technical field as the university, plus the academy, has in the field of academic studies, and the more this parallel is recognised, the easier will be the solution in questions of size, staff and budget. The same liberality is needed as in the academic field. Self-interest advises it, for nothing repays a country or a district more rapidly than such investment.

Its next function is educative. Such a Unit is the best place for the training and retraining of every kind of technical instructor. The association of hand-function and brain-function can be more effectively treated in a unit of this magnitude.

Further, the social mission which technical education is fitted to discharge can find its stringent initial impulse in the varied activities of such a Unit. Central Units should be organised so as to comprise all the stages of a technical education, from the lowest grade of handicraft-training up to a university standard. No Unit has yet reached this point. The twelve German "Technische Hochschule" (Technical Universities), which began as a new type of institution more than a hundred years ago, had this as their aim. Later they altered so as to approximate more nearly to a university type. They not only severed their connection with the lower grades, especially handicraft, but they admitted none who had not been at the abstract secondary school, or taken the university entrance examination.

The Université du Travail, Chaileroi, Belgium, on the other hand, has developed all grades, from the lowest standard to that of the college-trained engineer. But it leads no farther at this point: the road ends as in a blind alley.

What is clearly needed is a new form of Central Unit, one which combines both these types, and which includes, further, the admirable forms of adult and self-education which are provided in the Danish Technological Institute.

The Functions of Technical Education

The Methodology of Hand-Brain Action

Technical education differs from general education in the close and enduring relationship which it establishes between hand and brain. This is not accidental; it is fundamental.

The methodology involved is still insufficiently understood, and will repay further research. In every country, at the present time, the theory favoured would seem to have two aspects: the one, that hand action and brain action are not contradictory, but complementary, even in the process of creating something entirely new, that they constitute an increase in the personality function, and are thus predisposed, like male and female, to unite. The other is that, in any crisis of the intellectual development, when the mind is assailed by a form of cramp or is over-fatigued by work, manual activity proves the best remedy, and enables a new line of advance, which all seemed closed before. Every experienced educator is familiar with this condition.

But it is still by no means determined in what proportions or after what pattern this combination of manual activity with brain activity is best realised. At what stages of human development is it best employed? The age of adolescence, for one example, seems especially to call for a combination known to be capable of appeasing the super-excitation incidental to this period of transition. But, is it equally applicable to the age before 14, when the body is not yet fully developed? Or to the years after 21, when the first phases of youthful manhood or womanhood are seeking an outlet for their energy?

Again, there is relative unanimity upon the point that the manual side of such combined activity should be located in the workshop, factory or farm. But, in those many cases where the education of the hand is not yet adequate, there is as yet no certainty as to how far the school unit is capable of completing the preparation for the function.

There are other unsolved problems. Should the intellectual training be closely connected with the manual training, and be limited to an explanation of the joint function? or should the intellectual schooling seek to go farther? Which are the best periods for manual activity in the different age-groups? Should they be for hours, days, or even weeks? How shall the two aspects be co-ordinated? Are the co-ordination officers, already existing in certain systems, found to be of service in the visits they make to the students during their manual practice? Is the day continuation school system, which arranges for five days of manual work and one of intellectual work, proved to be satisfactory? or should there be longer periods, of whole weeks? Again, what have been the results of the different methods employed in the so-called "sandwich system"?

The answer to these questions will be awaited with profound interest during the next decades. It would be of great service if some international body were to make a scientific study of the effects of the different combinations. It is not improbable that the results of such research would be still further to reduce the present rivalry between intellectualism and manualism, and to increase the understanding of the possibilities of their synthesis.

Vocational Orientation

This new synthesis, of intellectualism and manualism, must soon form an indispensable element in every form of serious vocational guidance. Methods of psychological and mechanical testing, and the advisory activities of vocational guidance officers, are attaching always more weight to auxiliary function, as decisive in doubtful cases. But vocational guidance as a whole, and the selective processes for this or that school type, will rely increasingly upon the results given by a special type of class in which manual and intellectual activities are closely associated, as also upon the results of a technical training especially designed for this purpose. In this, France is again to the fore with her recent innovations.¹ The principle of pre-apprenticeship is based upon this conception. But even in the training for apprenticeship vocational orientation and self-guidance should be allowed full scope. It is often only after manual training has smoothed out the difficulties of adolescence and when self-respect has grown with the power to produce good-quality work, that the true "inner vocation" becomes discoverable.

Apprenticeship

Apprenticeship effects by far the most fruitful combination as between the social life, the schooling and the active production. It is the nursery for the seedlings that are to make straight and well-grown trees. There are countries in which apprenticeship is neglected. They suffer as though they had been deforested. There is not a little resemblance between the negligence and short-sighted greed which deprives a land of its trees and that which has destroyed, for reasons of a temporary convenience, the tradition of apprenticeship. The restoration of an apprenticeship system, like reafforestation, has to come. As we now refurnish our woods from nurseries, so we shall soon be recreating craft and skill by our nurseries of apprenticeship, although the process must now be more complicated and expensive.

The soundness of an apprenticeship system depends upon the conditions of the social environment. An apprentice is still at the age at which a secondary schoolboy is enjoying all the privileges of such schooling, the consideration for his adolescence, the protection

¹ Cf. "New Trends in French Education," the YEAR BOOK OF EDUCATION, 1938, page 915 ff.

against over-work, long holidays and, if he comes of a poorer family, financial support. As soon as he enters a university, such a boy enjoys more privileges than do boys of any other group in the fabric of society. Sometimes they are even too much for him, and he is encouraged to see himself as the pivot round which the nation revolves.

It would be a mistake to ask all this for the apprentice. A harsh reality should remain his element, and the struggle for higher achievement his pride. But he must be protected against exploitation. In not a few countries and in many branches of human activity, apprentices are, however, still regarded as no more than a cheap form of labour, and the educational side of their training is gravely neglected. There are, of course, admittedly exceptions, there are even whole industries which take the training of their apprentices very seriously, assign large funds to this department, and treat the apprentice in the fullest sense as learner rather than earner.

The use of the term "earner" in this context may need some explanation. If an apprentice is forced to pay his own way while learning an industry or a craft, his labour has to compensate the factory, or the craftsman, for the weeks and months during which he was still more a learner from them than an earner for them. It follows that for long periods he can earn less for himself than the unskilled comrade working beside him. This system of compensation by labour leads to many difficulties and many abuses. These can only be prevented by legislation or by voluntary agreement among large groups. For example, wherever apprenticeship is compulsory and the number of apprentices is brought into relationship with the number of employed workmen, a beginning at least can be made by raising the wages of the apprentice to the level of those granted to juvenile unskilled labour.

In many countries this would seem, indeed, to be the only way to make a beginning with this "reafforestation" of craft and skill. For, if higher wages are merely enforced mechanically, the effect is that of imposing too heavy a prohibitive tariff: apprenticeship decreases progressively, and even disappears.

Further, the fact that apprentices in certain countries are inadequately paid has a similar prohibitive effect upon the gifted poor boy. His family waits upon, and in many cases depends upon, his weekly wage. He is forced, therefore, to accept any early offer of unskilled employment, and to renounce every chance of further training by the way of apprenticeship.

Until this thorny question is settled, all efforts to revive apprenticeship must meet with great difficulties, or may even be made in vain.¹

¹ Cf. the examples quoted during the Lyons Congress on Apprenticeship, October 1921, *La Formation professionnelle*, Paris, November 1921, pages 9, 27 and *passim*. The Belgian delegate, Lambert, told the Congress: "If we do not decide that the apprentice must receive a sufficient wage, we shall effect nothing durable."

The gifted boy must not be penalised by a lower wage than his unskilled colleague. To protect him in this respect, and thereby to secure for the crafts and for skilled labour the best boys, irrespective of their means, is imperative. But this demand must be directed to the right address. So long as no general regulation is enforced by compulsion or by agreement, the single craftsman or industrialist is often unable to make apprenticeship training efficient. To defend apprenticeship against misuse and exploitation is a primary condition for any revival of true technical education. It may be done by way of a tax in favour of apprenticeship, or by a State contribution. Scholarships, also, for poor apprentices, and premiums paid to enterprises conspicuous for their apprenticeship training, afford other means. The aim must be to secure that the whole period of apprenticeship should be regarded as primarily educational. The rules and privileges governing sound education should alone maintain during this period. Educational funds should be available throughout, for the technical schooling as well as for the practical manual training. Medical help and supervision should be provided, and include the provision of meals in cases of undernourishment. Longer vacations during the apprenticeship period are already being introduced in many countries.

Education is being called upon to make an always increasing contribution towards the war against poverty and degradation. Apprenticeship conditions provide a case calling for all its efforts, at its very door. There could be no stronger demonstration of a humane outlook than for all educationists, irrespective of their professional branch, to join in the effort to open this door, and to admit the apprentice into the not uncomfortable educational dwelling-place.

It would be an object-lesson, also, socially. The process need involve no undue consumption of energy in protest or agitation. A careful study of the conditions in different countries would alone be needed, and would alone be worthy of the cause. But the result of such an effort would lead inevitably to a marked improvement in the social conditions of the apprenticeship system.

It must not be forgotten that to remove the social differences now existing between the apprentice and the secondary school boy, if it were only in all points affecting their studies and education, would mean a long step taken towards the goal of secondary education for all.

So much for the social side of apprenticeship. But the question is surrounded with other problems, such as the following:

How can the master, craftsman or foreman who gives the manual instruction be turned into a good educator? How can the personal contact between him and other educators be enforced? Should apprenticeship be monoteknic, polyteknic or even pantateknic—that is to say, should the training be limited to one craft, or to one special branch of it, or should the attempt be made to instruct in

several trades and crafts, or even, as was Proudhon's idea, in all trades?

The last alternative would to-day be regarded as chimerical, in so far as securing a thorough manual training is concerned. But there are many reasons in favour of the polytechnic proposal, for those at least who show real ability or application. One of the grounds for preferring it, namely that it produces greater adaptability, will be dealt with later.

The conditions regulating the individual apprenticeship should be engrossed in a specially designed apprenticeship contract. In many countries it is now recognised that such a contract is not only a matter of educational and social but also of moral duty. By such a contract the youth and inexperience of the apprentice are given a moral support against infringements of the moral code. There are special bodies existing in many countries which now exercise this supervision, or even a form of moral jurisdiction.

Chambers of trades or commerce, guilds, special juvenile employment committees or the local committees of technical education, all have—in one or the other country—these rights and duties to perform. They have, also, the right of holding examinations, and of granting certificates. In certain countries this granting of the annual certificate, and the promoting of apprentices to the higher grade of journeymen, are still accompanied by the old guild ceremonies and costumes.

The tendency is increasing to combine apprenticeship training with intellectual study. The compulsory day-continuation school in Germany gives the best example. One day a week, with full pay, is set free for attendance at this school. Other countries or districts are doing the same, either as the effect of a law or of a free convention. In a number of them the intellectual training is still given in the evenings, or even on Sundays. But the recognition is growing that this intellectual side of apprenticeship education is more properly given during the working week, and that the evenings ought to be left free for the personal interests of the apprentice.

There are several countries where the complaint is often made that certain industries employ so many apprentices that, at the end of their training period, the majority are forthwith dismissed. The apprentices, and those favouring apprenticeship, demand that, at the end of the term, every apprentice whose work has satisfied the craft shall be continued for a definite period in the same employment.

The movements in support of better apprenticeship conditions are often very significant. In Germany, for instance, the Hitler Youth, the central organisation for all youth, is energetic in defending apprenticeship against abuses. The demands there are more or less the same: better pay, shorter working hours, provision for a thorough education, longer paid holidays.

The fundamental issue lies in the questions whether or not apprenticeship shall be excluded from the material and moral

advantages of other educational institutions, whether, again, everything ought not now to be done in order to make technical education effective and attractive, and whether again apprenticeship, as the main branch of such education, should not now be progressively transformed from an institution existing for the poor and semi-poor classes into a fully privileged career for the technically minded of all classes?

Adaptability

Unemployment statistics provide a reliable method of analysing the results of the various branches of technical education. They demonstrate fully that the man trained only in one technique is more liable to remain unemployed than the man who is able to shift from one line of technical activity to another.

This is evidence of the advisability of training the apprentice to be adaptable, and not only in one special technique. Adaptability means the capacity to apply the skill acquired, and the principles mastered, in many directions.

There are schemes of technical education which concentrate upon cultivating this adaptability. They reject the principle that every man should specialise, and that, whenever unemployment occurs in a specialised line, it is the duty of the State to support those involved in it, irrespective of their individual adaptability, that is, of their ability to work on other lines.

We cannot here discuss the pros and cons of the attitude adopted by the trade unions. From the educational standpoint, however, there can be no question that the policy of encouraging adaptability is highly desirable. It provokes a right spirit of competition. The better boys attain skill in several special lines, and every sound educational process should be adjusted to suit the best, and not lower its standards to fit the weakest, members of the group. We are not considering social feeling or action, where such an attitude would be admirably in order, but of learning and its standards. Learning can only excel and develop strength if it is built up as a pyramid, a hard and a steep one. It cannot be raised or levelled at will, like soft clay.

Technical education, therefore, is acting in this interest in so far as it teaches adaptability and gives it practical opportunity. It is at the same time confessing to the belief that, so far as learning is concerned, there can be equality only at the start, and in the opportunities offered. But that when the later stages of work, its perfecting and accomplishment, come into question, wide differentiation in standard are not only to be expected but warmly welcomed.

There can be nothing dearer than a technical school where from the beginning every boy follows only his one special line, and where a bright boy is forced to repeat this line again and again, though he may have long known all the actions and tricks.

Acquired adaptability contributes to a technical training something of the liberalising effect which a more general education can

also introduce. If several technical lines have been taught, and followed up, one only will be invested with the idea of "necessity", the others will have the seeming, and the effects, of realms of art or of "liberal" learning.

The more, therefore, a technical education develops upon this line, the higher will be the development of the human being it produces.

After-school Education

To say that "learning never ends" has more than its ordinary significance in the case of technical education.

No such training can retain its adequacy throughout a man's working life without constant adaptation and addition to meet the accelerating progress of technical change.

To prepare for this continuous demand, adaptability is not the only quality which a technical education must aim at producing; an art of self-education has also to be learned.

It would seem that in former times this art was much more general. Many of the craftsmen of the past were notable for the fact, and for the success, of their self-education. In modern days the proportion has diminished: leisure time is more often devoted to distraction alone.

Institutes of technical education have paid too little attention to this. They have been considering too exclusively the adolescent stage. So it comes that the man of mature experience, a master of his craft, if he be in doubt about some problem or desirous of information about some new process, finds that the technical school is closed to him, or not available.

But such an institute should look upon it as part of its usefulness to remain a school, or a consultation centre, for all the working life. In this way it can link its own work with that of the men who are educating the young apprentices, and ensure, by its help and advice, that the foremen and masters engaged in the teaching are kept up to date in their work.

The Technological Institute in Copenhagen and the Université du Travail in Charleroi are models in this respect. But the number of such institutions is still small, and the majority of the excellent evening technical colleges in England seem designed to serve rather the adolescent and the younger men than the older and more experienced. In the continued interests of more general learning, Benjamin Franklin's Junta made an early effort of this kind. Technical institutes designed to serve the older as well as the younger members of the crafts will one day have earned the same pioneering fame.

And if they do develop the line here suggested we may look for the following fundamental changes. The teacher will have become the adviser. The study will be centring more and more about a concrete technical problem or procedure. Self-instruction will have acquired a much greater significance. And one may add that

self-instruction has always a tendency to produce groups, such as educate one another mutually, in the fashion of a true co-operative movement. From such self-educative groups technical education may learn much that can be profitably applied in all relationships of the technical institutes with the younger and with the more mature workers.

The Use of Literature

Technical instruction during the last thirty years has been promoting the extensive use of a literature better suited to assist in a process of self-education than that used in any other branch.

It comprises manuals for teaching all the details important for apprentices to know. Certain well-known factories, especially those for the production of electricity and the construction of automobiles and railways, have issued to their own apprenticeship training centres large volumes, containing accurate designs for every item of the technical processes. Some of the technical education centres have produced similar volumes. Others use also multigraphed manuals. The lecturers are required at the beginning of the year to set down the most important details of their courses. The outlines serve well both to introduce the study and to refresh the memory.

In certain countries monthly magazines are produced, especially for the use of former pupils. These contain clear accounts of the recent progress made in technical or agricultural spheres. They report also upon the activities and the meetings of each group, and they reproduce the encouraging speeches delivered on such occasions by prominent personalities.

There are also the publications of the co-operative societies, which are more and more tending to include useful educational information.

The manuals in use in some countries introduce the technical student to literature, and even to philosophical thought¹. But only very few institutions have developed, as have Charleroi and Copenhagen, a complete literary service for the whole district, dealing with all matters of technical progress and application. It is, however, to be expected that many will follow this example shortly.

This literature is unknown outside these special circles. But any one disposed to lament the decline of solid reading may console himself with the thought of its existence, and it should be recognised that whenever, and wherever, learning and doing, school and life, are again closely connected and working in educational comradeship, the taste for literature reawakens. The literature preferred has, indeed, the limitation that technical achievement forms its primary centre of interest. But is this in effect a limitation?

Grades and Results

Most branches of education still judge of success or failure by examination marks. It is an inadequate method. It does not cor-

¹ Cf. "The New Trends in French Education," the YEAR BOOK OF EDUCATION, 1938.

respond to the realities of life, its standards, expectations, and wholeness

But in technical education an examination is impossible unless both mental and manual ability are tested, and even that is by no means sufficient

No appointments-officer would give a decision founded upon such tests alone. They are, of course, an indication of quality, they can justify an initial trial. But other facts have to be taken even more into consideration. That the candidate has been apprenticed in a department of certain large firms, and that this has been combined with good technical school instruction, is often a recommendation which opens the doors to employment like a magic key. It will have been reported that men coming from such and such a centre, prove generally a success.

We have in this an indication that deeper human considerations are being taken into account than those faculties which can be tested by examinations.

Has a man's technical education qualified him to be considered a master of technical, intellectual and human problems? That is the standard in mind. And the system can claim to produce an exceptional number of men trustworthy, judgmatic, just-minded, both to colleagues and employers, ready to co-operate, and, last but not least, men willing to go on learning through life.

Technical education has this comprehensive quality—a quality which few other educational branches still comprise, even in part, and which none as a whole can claim.

Human quality can never be finally graded by school certificates, nor yet by the examinations that pass the journeyman or the master of a craft. In technical education the graduating continues for all the working life, and from each individual's point of view the way to higher perfection remains always open.

Wise employers in industry, in farming and in the crafts turn this to good account. They give every chance to those who are making their way by their own force and initiative. It is to their own advantage. Not only nations, but even small undertakings, can grow great and successful where they are carried upon the energies of the self-made man. Technical enterprises often attain their highest development by such means.

Women and Technical Education

Technical training is opening its institutions as much for women as for men. Certain vocations are, of course, more especially the woman's province, such as dressmaking, women's tailoring, *haute couture*, beauty-parlour work, office work and typewriting, while others, such as metalwork, tool-making, cabinet making, m^g, etc., are usually regarded as men's work.

In most countries young women, in addition to their training in a career, are encouraged to study the different aspects of househ^g, etc.

since many will one day be married and become mothers and housewives. But certain systems of technical education are now beginning to encourage the boys also to learn "handiness," so that in their future homes they may be able to deal with all the technical matters appertaining to a household. They learn even to cook, and some elements of the care of children. The tendency is for the distinctions between the work of the householder and housewife to diminish. In periods of unemployment, for instance, and especially in textile areas, thousands of men have to stay at home while the women do the work. But, over and above this, the household in some countries is becoming a new sort of co-operative enterprise, in which an equal comradeship maintains also in the daily round.

Besides this training in housecraft for home usage, a vocational training in cooking and housekeeping is still, in many lands, the main part of technical education for girls. Institutes for this craft, or one might call it art, are some of the oldest existing. In Scandinavian countries, where the conditions governing these careers are clearly and favourably regulated, fixing not only the wages but the number of working hours, they are frequented by many of the girls during the years before marriage. But sound regulation is of course an essential preliminary to the success or attraction of such a training or vocation. And we may quote the fact as another example of the dependence of technical education, not only upon the provision of good training institutions, but also upon the social conditions and attractions of the career.

Leisure

Technical education, if it is to train the whole personality of man as a producer, cannot neglect the imminent question of leisure time. The labourer, craftsman and employee will in the future have not only his eight hours' sleep, as he had a century ago, but also eight hours wherein not to sleep and not to work.

Far-seeing employers have been long aware that these longer periods of daily, weekly and annual recreation are needed upon grounds of expediency as much as of humanity. A worker can only meet the heavy demands of modern production if he can recreate his energies at regular intervals. The days are past when human labour was regarded as raw material, to be burned out and thrown away. From now on, that leisure shall be used to the best purpose will be a prime concern of all those interested in maintaining the fitness and increasing the skill of the working population. This being a principal object of all technical education, it will be seen that it will have to take an active part in solving the problem of leisure time.

The period of adolescence, when it is a question of forming habits, is of greater importance than the school years under 15. The responsibility of technical education, therefore, in training habit for leisure is all the heavier.

Three lines lead naturally out of a technical training in the direc-

tion of forming these new leisure-time habits. There is the inclination and the skill developed for manual work, the preparedness to give a helping hand in the house or in the kitchen, and the new interest in reading and thought, as it is produced in many technical schools and centred round the new conception of man as worker and producer.

Handicraft has its opportunity in the home as well as in the workshop, which will be added before long to innumerable small houses. There will then be little limit to the manual hobbies which it will be possible to undertake, and which will make a pleasure of spare time. It will be the same with housecrafts.

A renewed interest in reading and listening is another outcome of a technical training, and this even although over-cramming at school has gone far to destroy the taste and to replace it by a craving for sensation or amusement.

Only a few are able to develop intellectual interests upon a basis of abstract ideas. The humanistic part of technical education can teach a new art, that of developing the taste for reading and study upon a basis of concrete knowledge and practice. So grounded, the taste has every chance of strong growth. Once we have recognised that there is this second basis, we have found the way to start a fresh wave of interest in books and learning. It is astonishing to observe, in the realm of training, with what earnestness and discretion many of the men and women direct their own studies, once they have discovered this new concrete starting-point. It may be the different forms of steel, or a sick puppy, or some trouble with a beehive, which leads them on to read and study, even to philosophic depths.

There could be no better use of leisure time than such forms of self-education. But another must be added, the cultivation of a garden. There is nothing that can so definitely contribute to the growth and refreshment of the individual soul as the planting, tending and observing of growing life. Man is himself of the life of Nature, and his nature needs to draw from it, and contribute to it.

Millions of new houses in many countries have now their own small gardens or plots. More than half of these are working-men's houses, and of the remainder very many are for the occupation of those who have passed through some form of technical training. It suggests a happier picture of the future for man as producer when he may be returning early from work, to a contented family and to a house of his own, with its garden enlarging steadily to a field where he can farm and produce his own supplies.¹

In nothing are the changing views of our time proving more fruitful than in their dealings with working-men's housing conditions. It lies in the domain of technical education so to increase its efforts to

¹ Cf. P. Kropotkin *Fields, Factories and Workshops*, London, 1898. There is a large literature about more recent developments, and a survey is given in the publication of the International Housing Association, Frankfurt-am-Main *Subsistence Homesteads*, 1935.

educate the future working and producing generation to its new pattern of living, that it may profit from it to the full

It is our considered opinion that this education for the happy and productive profiting by the home-garden and the homestead is the most important contribution which technical education can make to the right use of the new leisure time. All other schemes for its employment by the working millions¹ will find in this their natural centre, from which they can develop, and without a surfeit of new organisations and programmes. Freedom and spontaneity, not a new bureaucracy, should govern the development.

D. The Aims of Technical Education

Equivalence with other Branches of Education

We have seen that technical education is regarded in practice, and sometimes still in principle, as a second or even a third-class branch of education.

That it should enjoy a full equivalence with other branches of education, with secondary schooling and the university termination, must be the aim for its friends to achieve.

The question remains, how is it to be achieved? In certain countries the teachers' organisations are attempting, and sometimes successfully, to assert their rights by political methods. They are working upon public opinion: they influence members of Parliament by the number of votes directly or indirectly controlled by the teachers' organisation, and they support their efforts by the whole weight of publicity.

In this respect it may be said that technical educators and their supporters are not unlike other human beings. But the main impetus will come from another quarter. It will come from the fact that every year that passes will demonstrate more clearly the growing importance of the technical educational system, and prove that that branch can give better answers than any other to many educational problems of the day.

Take the question of raising the school age to 18, or the move in favour of secondary education for all. With the exception of some old-fashioned leaders of the unions of craftsmen or labourers in far-distant countries, who still hold as stoutly to the old formula of "hands-off" as any mediaeval guild, no thinking man could really now believe that the fashion of abstract-intellectualistic secondary education, consisting of piling more book-learning upon more book-learning, offers any satisfactory answer to the present mass demand for a continued education up to 18. We should take it as

¹ An exhaustive report upon these very varied schemes was given at the World Congress for Leisure Time and Recreation, Hamburg-Berlin, July 1936. The Report is now published in English, Hansische Verlagsanstalt, Hamburg, 1937 (732 pages). It contains a full survey of this whole field. The volume has also appeared in German, French, Italian and in Spanish.

accepted that only a new form of technical education can give this answer

It is the same with the other problems which we have been enumerating, and which in many countries are of such urgency that an answer must be found. It is only technical education, in the wide sense we have been discussing, which can give their solution.

It needs no prophet to predict the development. Equivalence will accompany it. But technical educators should bear this in mind, and, at the same time, give valuable help in the present education crisis by a definite course of action. They should make every effort to enlarge the scope of technical training, to liberalise it, and to substitute for utilitarian or more purely material aims the higher educational purpose. It should be theirs to develop a new line of enthusiasm in youth, for conjoined learning and for co-operating.

The ideas are with us and about us, as certainties, they are almost concrete as schemes, they only require such leadership in the field of technical education itself as can give it new and wider form, and sway general opinion in the direction of giving to it opportunity.

Revalue the Hand

The value of the hand as the medium of training the mind has been too much disregarded. Two causes contributed to this: the perfecting of machinery took more and more from the function of the hand, reducing it in many cases to an auxiliary instrument, and organised education in its higher stages received, under the pressure of the new sciences, a more abstract orientation. Education in all its branches must take the lead in the crisis, and restore a proper educative balance.

English tradition can claim two excellent models of what "Revaluation of the hand" should mean—John Locke (1632-1704) and Daniel Defoe (1660-1731).

Locke, in his book *About Education* (paragraph 200 ff.), proposed that the use of the hand should be developed in every form of education, not only to produce technical ability, but to extend the personality and benefit the health. Even a nobleman's education should, for him, include all kinds of artistic and manual exercises, not excluding woodwork and cabinet making.

To illustrate the significance of manual labour for the perfecting of personality, he cites many great personalities from the histories of Israel, Greece and Rome, who combined statecraft with manual skill—Gideon, Cincinnatus, Cato and Cyrus. In his paragraph 208 he proposes that everyone during life should set apart a certain part of his leisure for the learning of successive practical crafts, the working in iron, brass and silver, the cutting and engraving of precious stones and the polishing of lenses.

Defoe's masterpiece, *Robinson Crusoe*, is too well known in educational circles to call for a commentary. Those who have admired and

learned from it have been numberless, and among his admirers was Rousseau

The list of those who have preached the same gospel of the hand, from Saint Benedict to Abiahm Lincoln, would be long, and it would fill a whole book even to summarise their ideas on the subject

But the charge is often brought against technical education that it has no deep "humanistic" background. It has, indeed, no need to draw upon the support of any system of abstract philosophy, for it can find its own human and spiritual force in the "philosophy of the hand." Where this is understood it can inspire those engaged in technical training with a sense of mission, and can serve to combine their different groups and activities in a lively and progressive entity, such as John Locke himself hardly envisaged.

The tragedy of our time is the uncertainty of youth about its own nature. It feels within itself unexplained and unwanted powers, making only for unrest. In the past, the traditions of family, of church and of society provided a stabilising, or at least repressive, influence. But they are losing—if they have not already lost—most of their effect.

The normal school education, as soon as it becomes directed towards examination papers, and therefore towards a utilitarian interpretation of success or failure in life, is unable to quiet this unrest. On the contrary, as we have said elsewhere, it assails and weakens the nerve system during the sensitive years of growth and puberty, and so increases the evil, discharging upon society successive generations of dissatisfied and disillusioned intellectuals. At such a crisis the function of the hand is an obvious remedy, and should any educationist need further explanation of it, every nerve specialist could give it to him.

Hand activity, either as continuous in education or as a periodic interruption for long periods, provides for such a condition of unrest and uncertainty the first clear and salutary moment of self-expression and self-analysis. The attempt to do this or that work with the hand forces our nature back to the realisation of that positive and final cause of success or failure, ourselves. It rids us of our habit of putting the responsibility for difficulty or failure upon others. Seeing that this habit is one of the main sources of our evil times, whether in our private lives or in our politics, this cure is directed to attack the core of a very general malady.

Teachers know of its uses, and as we visit the school-workshops or technical schools of Europe, we shall often be told of the miraculous effect which a longer period of manual activity can produce, even upon "dull" or "obstinate" boys. Their complex is resolved, and their capacity for study, together with self-respect and self-discipline, are restored to full vigour.

What is true of boys will be found to be even truer of adolescents. We learn the proof of it from the experiences of the 150,000 German "Werkstudenten" whose studies were broken between school and

university by several months of manual activity, and from those of the frequenters of the labour camps in many Continental countries.

The sphere of vocational guidance provides similar evidence. To give one example in the "Umanitaria" school at Milan, many hundreds of boys and girls pass, after their eleventh year, through a three-years pre-apprenticeship in paper, wood and iron work. Every child marks himself, on a schedule, for his time spent and for his progress in each operation connected with a single piece of work. He discusses the marks which he gives himself with his comrades, and he asks the advice of masters if his comrades think he has been too hard or too lenient with himself. After three years of such self-analysis, vocational guidance can become in great part self-guidance. Manual activity, as we have said, assists to self-knowledge. And the knowledge of the self is for us, as for the early Greeks, the gate to wisdom.

In 1848 Proudhon wrote "The more the efficiency of the machine increases, the more the intelligence of the worker decreases."

We are past this pessimistic dead-point. We can say to-day the more efficient and complicated the machine, the higher must be the intelligence of the mechanic working it.

Technical education has to see to it now that that intelligence has also the breadth of humanity required for the other complicated relationships of daily life.

The Co-operative Spirit

There is a theory that manual activity stimulates not only the brain functions, but also the "heart" functions, that is to say, that manual education will strengthen the social and co-operative instincts.

As a theory it might be difficult to prove, but many indications would seem to support it.

Solidarity is stronger among the labour groups than elsewhere. Again, the originators of self- and mutual educational schemes advocate including in such schemes a variety of manual activities. We can judge of the effect in the Boy Scouts, in the parallel movements in totalitarian countries, and in the clubs for unemployed. If on the Continent we visit a classroom in a secondary or trade school where there are no manual activities, and if we then visit the apprenticeship workshop of a technical institute, the difference in the atmosphere is amazing. Where men are working with their hands and conscious of the seriousness of this work, the group spirit and the co-operative spirit cease to be phrases—they become a lively reality.

Such a tone has been the result of an education to encourage the co-operative spirit. As we have said, co-operation among the educators is one of the main conditions of success. But whenever the pupils also treat co-operative "actions" as part of the game of life, the tone becomes one which promises well for achievement at the school, and after.

France can here again supply an example. More than fifteen years ago a group of educators started a "co-operative school movement," which has since then enriched many thousands of schools throughout France. Of the many descriptive accounts, one only will be mentioned, written by an originator of the scheme. B. Profit, Inspecteur de l'Enseignement primaire, *La Co-operation scolaire française*, Paris, 1932. It was launched as an attempt to repair and embellish primitive or defective schoolrooms with the children as the agents. Its next task was to get the things needed by the children cheaper upon co-operative lines. Later this utilitarian purpose was entirely merged in an idealistic self-educational movement, combining some aspects of Boys' Clubs and Boy Scout movements with the self-administrative principle of the English "house system" in schools. It is making the novel attempt to include all these functions within the school system itself. No conflict between divergent interests is thus possible. The *leitmotif* is, "The school is your Home." Everything the children do to make the school better equipped, cleaner or more attractive is done by themselves, the aim being to make the "school beautiful."

One obligation of the pupils in this co-operation is cleanliness in the buildings. The walls and furniture are redecorated if necessary, flowers and pictures are brought into the room. One of the officers of the co-operative is responsible for the health and cleanliness and personal hygiene of his comrades. Another has to consider what new equipment, not covered by the school budget, is required. In thousands of schools film equipment has been installed by the co-operative itself, or at least with its aid. Books also are bought. In cases of straitened means a special branch is empowered to give to parents or children immediate relief.

School festivals are organised by the co-operative group, and the expenses covered. In many places they have begun to organise small museums of local history, arts and crafts. A natural history department is attached. School gardens are in course of being provided.

A next step was the enlargement of schools. A close connection has been established with past scholars, and the co-operative group will spare no pains to keep this connection alive and make it a reality.

Since the money for all these activities can only in part be contributed by the children themselves, other sources have been tapped. The children collect medicinal herbs and the like, and sell them for the benefit of their co-operative. They seek also to interest others in the school, and make collections.

The administration is supervised by the teachers, and by the French Co-operative Movement represented by an executive committee of seven, elected every year, and consisting of local members of the school. This committee has a business meeting every month, which is conducted with all the forms of similar meetings of "adult" co-operative groups. The meeting takes the

place of the weekly lesson in citizenship, to which a period is always given in the time-table

Further, possibly the most valuable side of the work is the encouragement given to self-education in "better learning and thinking," and in moral self-control. The "Co-op," as the Co-operative group is mostly called, has its statutes and its moral code. Here are some extracts:

"The young co-operator seeks to make his school, like his home, better equipped, cleaner, more beautiful. He is energetic and disciplined. He is ready to sacrifice his own claims, since self-devotion is the crown of life. He cultivates the sense of duty. His comrades are his brothers. He considers first the unhappy, the weak, the little, and the newcomers. He is loyal, sincere, generous, courteous. He accepts the responsibility for his own actions, and before he acts, he seeks to inform himself, he strives to be just. His word can be trusted. When he has well reflected, he acts quickly, decisively and with good temper. He is to be known as one of upright character, considerate, vigilant, enterprising and liberal minded" (see Profit, *op cit*, page 7).

And these are quotations from a statute:

"We act in the interests of clear thinking. We use active methods. We direct our aims towards practical activities, towards manual labour, gardening and housecraft. We aspire to use practical methods of teaching and learning, experiments, original sources, school workshops, a school museum, a school cinema, a school broadcast.

"We use and develop all means of 'applied co-operation,' such as the exchange of letters with other native and foreign schools,¹ excursions, visits to factories and workshops, exhibitions and festivals (*op cit*, pages 13 ff.)

"The co-operative movement has spread rapidly to other countries, notably to Spain and eastern Europe. In a letter to the teachers in Roumania we learn of some of the results. 'In every district, the population and the municipal authorities have now learned to take an interest in the life of the school and in its projects. In this way there is growing around each school a circle of affectionate interest, such as may form a basis for a more general human co-operation' (*op cit*, page 171).

Many French technical school institutions have accepted the same system, and with excellent results. Were other countries to adopt it in the same spirit, technical education would soon be fulfilling a great mission. If there have been features in an over-rapid technical development harmful to humanity, in movements such as this, we can find a compensation, and possibly their remedy.

Social-mindedness

Technical education has more direct contact with the social difficulties of the labouring class, and can do more to assist in its struggle for self-improvement than any other branch. In some countries technical central schools and evening colleges form a

¹ School correspondence is highly developed in France, more so than in any other country. If any letter is left unanswered, the president of the co-operative immediately reminds the member of his duty.

type of poor man's high school, and serve as a meeting-place for a very promising element of youth

These young men and women are not usually of the kind which can win scholarships easily at 10 or 11 years of age. They have had to struggle hard, up the steep path of self-help. Their compensation lies in the fact that they have not been spoiled, and in the pride they feel in having won their own way unassisted.

Secondary schools or universities have generally to make a special effort if they are to be "useful to the people." Not so these institutions. They are "of the people," and this lends them the healthy and sound character of their daily work. In them the small and big incidents of the life of the working class are represented, and much of its unspoken tragedy. Eyes and bearing betray that many of the pupils are undernourished, and that they can afford but little for their books, their learning or their pleasures. And yet the tone is surprisingly cheerful, and alive with gratitude to effective teachers or evening instructors. There is no school fatigue in them, and education is more highly valued for itself than is common elsewhere.

The teachers, on their side, speak of the pleasure it is to work in such an atmosphere, and the senior ones quote cases where the school's connection with earlier students has been kept alive for many years. Cases even where sons have succeeded their fathers, as pupils, thirty years later, and both generations have continued to maintain the friendly contacts.

Beauty and Function

In most systems of technical education there has been a return to a simplicity of style and to that type of beauty which is not added to a product as external decoration, but which comes from the material and its functioning.

This change took place thirty to forty years ago in a number of different European countries. An instance of it can be found in the German *Werkbund*, and it is strongly represented in the new style of buildings and art schools at Darmstadt, Berlin, Dresden, Hellerau and Munich.

The most progressive and the richest expression is the work of Professor Gropius, who created an art school combining pre-apprenticeship, craftsmanship and every form of art in the same unit, forming successive stages through which every pupil must pass. This was the Bauhaus in Weimar, later Dessau.¹

Gropius is now Professor in Harvard University, and Moholy Director of the "New Bauhaus," Chicago. Gropius, when he says of this new style of simplicity that "in all countries youth has

¹ See (a) Walter Gropius, *The New Architecture and the Bauhaus*, London, (b) Walter Gropius, "Unity between Art and Technique as the Aim of Public Education in Art," the YEAR BOOK OF EDUCATION, 1936, page 493, (c) L. Moholy-Nagy, *The New Vision*, New York, (d) Moholy-Nagy, published by Fr. Kalivada, Bino, 1936.

been fired with its inspiration,"¹ is not making an unjust claim, any observer of the technical schools and workshops of many countries will confirm the statement. A new combination of material and form, function and beauty, has been effected, and is in course of further development. In accordance with it, the beauty of a new "streamline" car or engine is acknowledged, no less than the fine proportions of a plain hand-made tool or tissue.

In France, this movement towards combining art and technique is strongly supported by the Government. The General Director of Technical Education, Hippolyte Luc, gives an impressive description of its aims.² He says that in 1927 Edouard Herriot, then Minister of Education, wrote to the two Directors, of Technical and of Art Education, recommending their close co-operation, since art and technique should be inseparable. Luc reports upon the success of the co-operation, and quotes Pascal's words that the spirit and the hands must be friends, and proclaims further: "No technical education without artistic education!" Symbols and ornaments have little value, but Art is the very flower itself of technical invention. "Beauty in art, as in life, is the perfect and happy solution."

Style, once again at the present time, has become for a large part of the younger generation more than a contemporary fashion or passing phase. It is the expression of an inner feeling, almost a confession. The simplicity and sincerity which are desired and sought for in other provinces of life, are finding vigorous expression in the new style admired by youth. To give it the right balance of function and beauty is the mission of our technical education.

Lifelong Learning

Men are of three kinds: those who never learn, those who have learned for a period of life, and those who remain lifelong learners.

With the first, technical education can do little or nothing. Such a non-learner may be able to pass through primary and secondary school, and even a university, by means of memory and preparatory cramming. But a mind that is no more than a gramophone record can never in any real sense learn.

The one-time learner was able, for a period at school, to understand and assimilate the facts and laws of nature, history and knowledge, to his inner consciousness. But he has then broken off. Life proves to be irreconcilable with what little he has learned. He has no "time" and no mental energy left to start learning anew for himself. If one of this type passes through a technical training, he will, after a few years, have failed to keep touch with the rapid development in our technique, and be unable to adapt himself to the necessarily changing conditions. At the best he will continue to

¹ Gropius, *The New Architecture and the Bauhaus*, page 80.

² See H. M. Magne, *L'Art et les Techniques*, Preface by Hippolyte Luc, Paris, 1936.

work as an automaton, even if he possesses a natural skill and ability

It is only the lifelong learner who can make a complete success of his technical education, and who carries the best of its teaching through life with him

Another fact emerges, if we compare the different schemes of technical education. In the majority of countries the attitude of the lifelong learner is frequently found among working men and women, not so frequently among the middle class. Only in the group of the highly educated do we again come upon a similar frequency of this attitude towards learning. The middle classes would more often appear to prefer to leave the harder labours of thinking and learning to others, and to be ready to accept too easily ready-made doctrines or theories. On the other hand, this is not so conspicuous among those of them who have been technically trained.

The difficulty here lies, not in the lack of human inclination, but with the lack of institutions and opportunity. Only in a few districts has technical education become aware of its real task, and adapted itself to its discharge. Denmark again, and in Belgium the district of Charleroi, and some technical colleges in England, are conspicuous exceptions. It is upon this point that a vigorous effort of concentration will be made, in many countries, during the next few years.

Three things are indispensable

- (a) An enlargement of existing centres, or a creation of new centres for technical education, adapted to the wider, human requirements of the pupils. In them the teachers will have to become, more and more, advisers. The teaching will have to take the form of special courses, or of individual coaching.
- (b) Opportunity must be given to men and women, without interference with their vocation, to take "refresher" courses at these institutions, and this as soon as it is apparent that their own efforts to improve their skill justify a new period of instruction.
- (c) The enthusiasm for learning, which often distinguishes the entrance to a school, must be maintained. How is this to be done? It is the question of preserving a certain inner attitude of the mind, an attitude of curiosity and of wonder. In youth it is of the nature of a smouldering fire. The questioning and the admiration can be smothered by an ill-judged heaping up of mental matter, or it can be blown into flame by the right breath of the spirit. This breath may be often that of a master or an older friend. His example captures the admiration, kindles the flame, and inspires the effort to become like him, and to go on learning as he has done. It is the personal effect of life upon life. Nothing can kill this admiration more than the attitude in the educator of "I know how much I know." Whereas the attitude "I know that I know nothing" attracts as strongly, since it is, itself, the symptom of a sympathetic and enduring youthfulness.

An education of the technical type, although it may rarely make the claim, provides just that field of common doing, as well as learning, which is indispensable for the establishment of an educative relationship of this kind

Penetration of Education into Life

This last century has witnessed an astonishing development in the process of education. If it is to continue as vigorously, it must follow one of two lines. On the one hand, it may lead to an even wider extension of the sacred domain of education proper, in the old sense. In this event, more and more teachers will be required as priests of the temple, more years of every life will be devoted to it, and educational tenets alone will govern it. This was the vision as Plato dreamed it, and this was the experiment as it was once made by the Jesuit State in South America. No one can credit the issue of a fresh experiment of this nature.

Technical education opens the alternative line. By it, educational principles and guidance will percolate steadily and silently into one sphere after another of economic life. This course has the authority of Christ's teaching. It was the advice also of Dostojewski to youth, "the time for living outside life is past, we have to live in life and through it." The picture of life as consisting of two spheres, a sacred sphere to which belong salvation and happiness, and a lay sphere to which these are denied, is foreign to the mind of modern youth, and is growing more so every year.

By a right process of training in doing, the opposite should be achieved. The educational process, and a respect for it, will be entering the structure of daily life and enriching it.

In this manner it will come that the apprenticeship departments of factories will be governed by rules of humane conduct. Exploitation will disappear, for exploitation is the arch enemy of the educational spirit.

Again, educational opportunity will continue for all working life, and with it a new spirit will enter into all the processes of production. For the factories will be giving to everyone the chance to improve himself, and, wherever it is deserved, continued renewal of opportunity to make use of educational institutions. The conditions resulting will be not unlike those conceived by Robert Owen. But no friend of human progress will make this an objection, and already many factories both of the capitalistic and non-capitalistic order are developing in patterns that approach this ideal.

The attitude of those responsible for our technical education will be decisive in forwarding this process of interpenetration between education and industry. They need feel no alarm or jealousy if the industries themselves take over this or that part of the educational training. They have but to assure themselves that a sincere co-operative and social spirit is accepted as a basis of the training, and they can be confident that its educational effect will be safeguarded and continuous.

Extension of Education

Such a relationship between education and occupational reality would render practicable and reasonable a policy directed to satisfying the growing demand for increased education and longer schooling up to 18. In a training designed upon technical lines in the wider sense of the term, the younger generation would not lose its firm footing upon reality, and those of the more practical type would escape the exhaustion of energy and interest incidental to purely "bookish" study.

We have already dwelt upon the dangers threatening many lands as the result of the overcrowding of secondary and university education. It is producing numberless unoccupied and unhappy students, discontented with the existing order and themselves. Acquired knowledge has lost for them all power to satisfy or to inspire. They drift, an easy prey to every agitator. Nothing is too fantastic to capture their support. They are ready to believe in any dogma or system, if it offers the faintest hope of yielding them a recognised position or some active share in life.

And the danger is only temporarily averted by the present armaments wave. It will return when this wave, in turn, recedes. In a few countries the problem may be lightened to a certain degree by the decrease in the birth-rate. But it is doubtful to what extent. The reduction in the number of children per family has been found often to lead to a marked increase in the number of children seeking secondary education. There are other countries, especially in the East, which are only now entering this danger zone. And the unrest which will follow in them must soon increase the peril for the rest of the world.

It is with a full sense of responsibility, and after long personal experience in this field, that we venture to express a strong disbelief in the ultimate efficiency of all preventive methods hitherto attempted or discussed. They are either futile attempts to dam a rising flood, or they owe any force they possess to the introduction of unjust or unsocial discriminations.

The only practical solution is to open new outlets to discharge the flood upon wider fields for the fertilising of now barren spaces.

It is a technical education, of the new and broader kind, which can serve us best to provide these outlets, ease the over-pressure upon the intellectual branches of higher education, and diminish the imminent danger not only to our school systems but to our whole State structures.

From this point of view, the extended technical education we have been describing should win the interest and support even of those who have no connection with the provinces of technique or production. For who is not concerned with the problem of how we may avert the threatened breakdown in our pattern of modern civilisation?

The real question emerges: should not the demand made by many progressive educational, political and other associations for

secondary education for all up to 18 be altered to a demand for technical education up to the same age?

This last demand is not a new one¹ Fellenberg (1771-1844), one of the most enterprising friends and followers of Pestalozzi, stated that everyone, even the farm-hand, ought to stay in an educational institution up to 20 Grundtvig (1783-1872) proposed that there should be a second period of education for the working man, between 18 and 25²

The authors of the German day continuation-school scheme, and, above all, Kerschensteiner, proposed emphatically that all not attending a higher secondary school should be trained under their scheme, up to 17 or 18

The department for technical education of the Hitler Youth has frequently asserted its intention to ensure that every young German worker and employee should attend the compulsory day continuation school up to 17, and should, further, receive full training as an apprentice for three years after leaving the primary school But, this extension is still very far from being realised Industry, the crafts and agriculture are alike unable at their present stage, even under legal compulsion, to provide a comprehensive apprenticeship training for all The point should not be overlooked that not even a very highly developed factory, famous for the finish or the accuracy of its products, can to-day employ more than 25 per cent of its staff as highly qualified workers³

Furthermore, it is only the technical training of the highly skilled hand, and of the craftsman of equal standing, which takes three years or more The semi-skilled hand can be trained in from three to six months on an average, and the unskilled worker in an even shorter period

If, therefore, industry, the crafts and agriculture are called upon to take over the obligation of fully educating a hundred per cent of the youth which is later to be employed in the process of production, in three out of every four cases this would imply the discharge of a purely educational function—one taken in excess of any training justified by the demands of future production

It is a problem unsolved for the moment, and the direction in which a solution can be sought is not yet clear

On the other hand, every step in educational progress has been the answer to some challenge from an ideal And we should be falling far short of a very limited ideal in education if the demand of

¹ See (a) *Landwirtschaftliche Blätter*, by Hofwyl, 2 volumes, 1808-1817, (b) Capo d'Istria, *Rapport présenté à SM l'Empereur Alexandre*, 1817, (c) Paul Schmidt, *Philipp Emanuel von Fellenberg*, Aarau, 1937

² See R. Schärer "Denmark as an Example of the Intensive Education of a People," in the *YEAR BOOK OF EDUCATION*, 1937, pages 730 ff

³ See the report of the Robert Bosch Factory, Stuttgart, which produces automobile equipment and employs over 20,000 hands The relationship between skilled, semi-skilled and unskilled workers is 25 53 22, see *Technische Erziehung*, 1936, Nr 6, page 19

youth for the full technical training of future workers were to find no response

For the time being, so long as the problem remains unsolved, millions must remain no more than semi-educated

The objection, however, is not infrequently raised—"In all statistics of unemployment there appears a large group of so-called unemployables" Is it not probable that these were also, during their adolescence, the "un-educatables"?

The inference is, at most, only partially justified No one can estimate how many of them may have been rendered unemployable only because they were subjected to an inappropriate education Nor can we say how many of them might not have been rendered employable by a training on a more technical basis

The experiences of many decades of work in charitable institutions, in houses of correction, and even in prisons, all go to show that there is no surer means of correcting abnormality or under-development than the learning of a useful craft

Even if it is freely accepted that thousands of adolescents can upon no method be developed into first-rate craftsmen, this is no argument for delay in finding a solution for the technical training problem a training which alone can provide both normal and sub-normal with the opportunity of full development to the utmost of their respective capacities

Educationists at least must not renounce the responsibility in face of the difficulties involved It is the task of education to strengthen the weak and encourage the stricken It need not show an annual balance-sheet of profit and loss Its budgeting should be done with the longer view, calculating ahead the ultimate gain to the community and to humanity In this sense it may be said with truth Education always pays, provided only that it is appropriate education¹

The New Pyramid

Those who favour the extension of a liberal technical education, and who envisage its new sphere of usefulness, see its structure as that of a pyramid The basis of the pyramid will broaden steadily with time, and it will be given an apex

In most European countries technical education has now no apex the higher university grade is not yet incorporated in its structure Where, as in Germany, technical universities exist, entrance is only granted to graduates from secondary high schools There is a narrow auxiliary line by which a few exceptional cases from technical education may win through, but for the great

¹ See *La Formation professionnelle*, Paris, XVII, November 1921, page 8 Belgium affords an interesting example of the service of Technical Education Of its seven and a half million inhabitants (1921), it can feed from its own products not more than one and a half millions Six millions have to live on the export of industrial products, thus four-fifths of its whole production has to be exported Technical education alone renders this practicable

majority of boys and girls passing through technical education the way to university study is closed. They are, and they are conscious of it, in a blind alley from which there is no upper exit. So long as this is the case, all talk of the equivalence of technical education is meaningless. It remains, as a whole, a subordinate branch.

There are movements, in certain countries, to change this, but up till now, technical students have little chance of competing against those students who, as a first and second quality of the "skimmed" cream, entered the line of abstract secondary education, and consequently feel themselves more at home in the academic atmosphere than boys coming from the technical branch.

The need can only be met by a bold experiment. New institutions of university rank, with research departments, should be established to form an apex for the basic institutions of all grades of technical and manual education.

Technique and modern methods of production are coming of age. They should no longer be restricted to asking for a corner of shelter for their highest grades in the older type of university, where both equipment and tradition too often still reflect the spirit of centuries when the world was not yet reduced to a "pocket-sized" globe, round which the human voice can travel several times a second.

Such an institution could discharge a humanising function of genuine import. Any untrained observer of the new centres of technical training must be inspired by the spirit of service and of co-operation which they develop. As apart from the transmission of this to their own higher institutions, they could undoubtedly—were a closer connection established—assist the older type of university to overcome something of the unrest and premature sophistication prevalent in the student body. An infection coming from real contacts with social conditions and with strenuous manual labour would be a sound remedy for the illnesses to which an over-intellectual and over-cultivated society is exposed.

The university apex should have for its study all questions of labour, technique and production. The entrance examination admitting to it should be restricted to those taking the higher branch of technical education, and thus in view of the wide range of the special subjects studied. For the subject of production alone, in its widest sense, covers a vast area. It includes social questions, economics, the field of technical preparation with its humanistic enlargement, and also psychology in so far as it is concerned with labour. The new science of management should find a place in it, and the occasion of a freer growth. Commerce, also, in its international aspect, in so far as it calls for a scientific training, would be much better studied in an atmosphere of realism and action than in a university of other traditions. Art, in the many forms in which it applies to labour and production, would find here its right environment.

Such a university of labour and production would have its own sphere of research and study, of a first-rate order

One of the main conditions for the widening of the basis of, and for the construction of an apex for, the pyramid of technical education is that the training should proceed undisturbed and independently through all its stages

There is a tendency observable for the primary or secondary branch to absorb this or that department of it as soon as it shows a favourable development. This tendency towards assimilation is now again active, in several countries, in the form of remodelling secondary education into three branches—a classic, a modern and a technical side

To detach one part of a technical training and thereby cripple the growth of the whole would, at the present time, be even more fatal than it was to squeeze the old "Real Schule" into the general Prussian school system more than a hundred years ago

It is well to have it in mind that, while other branches of education may be viewed as clean-cut vertical strata, technical education has to conform to the character of primitive rocks, such as quartzite crystal, which breaks diametrically through all the strata of later formations. For labour and production are such primitive rock, and it is wiser to leave the technical education which serves them free to grow irrespective of all other strata

The older educational branches, once envy and rivalry as between attendance figures are eliminated (and these are a disgrace to education¹), can only gain by the addition of this independent branch. Competition between them, in the quality of their teaching and of their educational product, could only be of benefit. Such competition only strengthens, and it breeds new ideas

Technical training has been too long compelled, in all its higher stages, to assimilate itself to the other educational branches, and to accept their collaboration. A free development for a space of time in the opposite direction would be all to the good. Concreteness, the learning from facts as well as from books and the discipline given by physical alertness and manual skill can be usefully increased, and with advantage to every career and profession

But the principal advantage undoubtedly would be the opening of the way, from the bottom to the top, for the gifted and industrious, and this in an atmosphere neither strange nor embarrassing to them. No one who knows the profound inner tension existing in the masses of the labouring class and in the new middle class of some continental countries can deny that a new outlet of this nature must be found. To give an outlet for energy to the hard-working and the gifted is better than to leave it to the agitated and to the agitators to release energy in their own fashion. Wherever the golden rule, of no upper limit for the men of high quality and performance, maintains, unrest gives place to concord. When Napoleon formed the first modern army he applied the golden rule to it, and proclaimed it in the well-known words—"Soldiers, every one

of you carries a marshal's bâton in his knapsack!" Similarly, over the door of every technical school might stand the words. "Dedicated to the future workers, foremen, constructors, managers, and, maybe, managing directors of all branches of production in this district"¹

Two things are essential if this goal is to be reached. The extended technical training must be given its full opportunity by all those interested outside the school sphere, by the Government, by industry, by the trade unions and by other branches of education. The second is a matter for technical education itself: there must be an unchecked circulation within the pyramid, either upwards or downwards. The free movement upwards, from the bottom to the top, need for the time being alone concern us. It should be regulated by one standard alone—the standard of attainment reached respectively by every pupil, youthful or mature. Only on condition that all non-educational criteria, such as private protection or political prejudices, are eliminated, that every young man or woman is given a fair start, and, if need be, a fresh start, can the final result of the experiment be so convincing that none will deny to men and women ending their technical training at the summit of the pyramid their full right to compete on an equal footing with their comrades from all other branches for the highest positions.

The basis of such a pyramid, as we have already said, will steadily widen. It should provide for much excellent if at present neglected material, and not impossibly for many of those who become "rolling stones" or "rejected corner-stones" under present educational conditions.

If once the upper outlet, the university apex, is contributed, the attraction of the training will be so great that the need for artificial efforts to develop it will cease. A legal compulsion to attend the school, up to a certain age, for one day a week or more may suggest itself as desirable in certain districts or countries. But even in countries which do not take this course the absence of any compulsion will not affect the issue: the basis of the pyramid will continue inevitably to widen.

Conclusion

Humanity is awakening from alternative nightmares: the one that the outcome of technicisation must mean the destruction of mankind in war, the other that it must involve the dissipation of all vital energy in a fool's paradise. Actually, the issue lies with ourselves. From the moment when we have overcome these two incidental temptations, the danger that technicisation seems to threaten is past. In this respect our modern wave of technicisation in no way differs from the history of every implement invented in

¹ Henry Ford has given his work-schools this motto: "Educate the future workers, and if possible the future president of the Henry Ford Company."

the distant past by the innate genius of man, to free him from subordinate labour and to make him ready for a yet higher form of work. Every new tool or instrument was, in the beginning, subject to misuse. The misuse of technicisation in our age was, and still is, immense, corresponding to the immensity of the wave of novelty with which it flooded the world.

But the younger generation is already beginning to understand that machines and mechanisation are there, in fact, to relieve us from coercion, while our intelligence, proportionately released, urges us more than ever coercion could do, to produce materially, intellectually and morally a finer and more human pattern of living, and therefore a better human being.

REINHOLD SCHAIERER

CHAPTER TWO

THE IMPORTANCE OF VOCATIONAL TRAINING

Need for Different Vocational Training

AT no period in the development of modern industry has vocational training aroused greater interest than it does to-day. It is regarded as of such importance that there is every justification for applying to it the words of an American author speaking of education in general:

"Education is an integral part of the productive process hardly less indispensable than capital, raw materials, and labour"¹

Vocational training is so highly valued as an economic factor of the utmost importance largely because people have at last come to realise how misguided were those who, confronted with mechanical perfection, thought that the rôle of the worker had degenerated into that of a mere automaton and that the day of the skilled worker was over. In a civilisation dominated by the power-machine industry, efficiency in production demands workers who are highly trained, not so much manually as mentally. This idea has been so generally accepted that in every country both institutions and methods of vocational training are being carefully studied, with a view to adapting them to the important part they are called upon to play in the modern economic system. The spread of mechanisation, rationalisation, mass production and the use of conveyors have neither reduced nor eliminated the importance of vocational training, but they have fundamentally changed it. We are witnessing the creation of a never-ending series of new kinds of work, and the ceaseless transformation of the needs of the labour market, with their consequent demand for different qualities, different aptitudes, and different capacities on the part of the workers. These, in turn, imply different vocational training, more varied and comprehensive than the apprenticeship needed by the purely manual dexterities of the journeyman of the past. The old classifications of workers as skilled, semi-skilled and unskilled no longer correspond to modern requirements. As Henri de Man says:

"Modern technical methods require of the worker a lively intelligence and sufficient knowledge to understand the increasingly complex and fluctuating processes of manufacture, rather than a long and patient training in muscular movements and manual dexterity. As technical progress continues the need for a higher standard of education among workers becomes greater"²

¹ Nathaniel Pfeffer, *Education and Experiments in Industry*, New York, 1932, page 6.

² *L'exécution du plan de travail*, Antwerp, 1935.

Following the same idea, Mr. Abbott, formerly Chief Inspector of Technical Schools in Great Britain, wrote

"The modern type of workman is not necessarily less skilful than his predecessor, but his skill is of a different kind. What he must possess is not special skill enabling him to undertake one particular class of work, but general skill and that flexibility which is gained by the systematic training of hand and eye and mind through the manipulation of various kinds of material with simple tools."¹

Besides being admittedly of great economic importance, vocational training to-day is called upon to meet a social and cultural need. It has to restore to the worker his sense of personal satisfaction in his work, which the machine threatens to destroy.

"A man who knows his trade well will have a deeper sense of his own value and is, therefore, certain to be a much better citizen than an unskilled worker."²

A similar idea was expressed by Mr. R. Stettinius, of the United States Steel Corporation:

"We can achieve the utmost in economy by engineering knowledge, we can conquer new fields by research, we can build plants and machines that shall stand among the wonders of the world, but unless we put the right man in the right place, unless we make it possible for our workers and executives alike to enjoy a sense of satisfaction in their jobs, as well as that feeling of personally contributing to the well-being of society which springs from the knowledge of a good job well done—unless we do all these things our efforts will have been in vain."³

Need for Close Co-operation between all Agencies

But if vocational training is of real economic importance and plays a vital part in the social life of a nation, it must be an integral part of its economic structure. This can only be achieved through close co-operation on the part of the various agencies concerned. Many countries have now set up co-ordinating bodies which constitute the real "liaison officers" between economics, technical progress, and the training of the worker. Indeed, in this sphere, as in so many others, the idea of "conscious economics"—is already making itself felt.

For better or for worse, we are passing into an age when every economic process—be it industrial, commercial or financial—will be increasingly subjected to carefully thought out direction. Vocational training will certainly not escape that gradual encroachment of concerted action, both national and international, upon ill-

¹ A. Abbott "Recent Trends in Education for Industry and Commerce in Great Britain," in *International Labour Review*, vol. XLIII, No. 2, August 1935.

² U.S. Department of the Interior, Office of Education, *Apprenticeship in England, France, and Germany*, Vocational Education Bulletin No. 176, June 1934.

³ Francis Maule *Men Wanted*, Preface.

directed or undirected development. The fact that the International Labour Organisation has put the question of vocational and technical training and apprenticeship on the agenda of the XXIVth and XXVth Sessions of the Conference in 1938 and 1939 is a significant and encouraging indication of the importance now attached to conscious planning in this field.

In short, whatever lack of faith there may be in the future of international political institutions, and however distasteful international institutions of any kind may be to some mentalities, the great majority of people nevertheless realise, whether reluctantly or not, that the international consideration of social and economic questions can hardly be avoided as the world is now organised. It may be that through their common interest in those social and economic problems that are common to all of them nations will be brought back to a more co-operative outlook and may be led to plan the future in the light, not only of the short view of to-day, but also of the longer view of to-morrow. Vocational training is now recognised as essentially one of these common problems.

H B BULLER

CHAPTER THREE

THE INTERNATIONAL LABOUR CONFERENCE AND TECHNICAL EDUCATION

Introduction

ONE of the subjects discussed at the Twenty-fourth Session of the International Labour Conference in June 1938 was Technical and Vocational Education and Apprenticeship and, as a result, a questionnaire has been submitted to Governments for their consideration. On the basis of the replies of Governments to the various questions, a report will be drawn up by the International Labour Office for submission to the next Session of the Conference, and it is hoped that a Recommendation will be adopted which will stimulate the development of Technical Education and training for industry on lines acceptable to Governments, employers and workers.

Realisation of Importance of Technical Education

This is the first time that Governments, employers and workers have been brought together to discuss this important subject on so wide an international basis, and there can be no doubt as to the value of such an opportunity for the review of developments in the various countries, the exchange of experience, and the pooling of views as to the needs of the present and future and the action desirable for meeting them. Since 1919, the International Labour Organisation has been mainly engaged in the adoption of international regulations concerned with provision for meeting the vicissitudes of industrial life, such as insurance against unemployment, sickness, accidents and old age, safety and health, compensation for accidents, and the improvement of working conditions. Discussion of problems of employment and unemployment have forced to the attention of the Organisation the necessity, under modern conditions, of giving increased attention not only to the methods by which industry may be assured of an adequate supply of skilled workers, but also to the provision of such facilities for education and training as will enable individual members of the community to make the best of their personal qualities and to possess that adaptability to the changing circumstances of industry which is necessary to enable them to keep their place as active members of the community.

The Value of International Discussions

Such an international discussion has served to indicate the differences in the various countries as regards the extent to which

the State and industry, respectively, accept responsibility for the training of workpeople. The value of discussions in which Governments, employers and workers are associated is that the proper relationship of technical education, apprenticeship and other forms of training can be established and the causes of prejudice and suspicion adequately examined. It has to be recognised that, on the part of employers, there is often prejudice against training other than that which takes place in the workshop. This is partly due to the fact that industrialists have not always been so closely associated with the control and direction of technical education as is desirable. On the side of the workers, it has to be recognised that they are naturally concerned with the maintenance of standards of wages which have been secured after much sacrifice and effort, and, having experienced the effects on those skilled in particular work of the constant development of machinery and having fears of the pressure on wages which might be caused by the existence in any circumstances of an unregulated increase in the number of workpeople with technical training, they look with suspicion upon training outside the workshop in which they have no part or control, and which may increase the number of those with whom they may have to compete for employment in skilled occupations. In many industries in Great Britain, Joint Industrial Councils on which both employers and workers are represented have special committees which deal with entry into their industries and with courses of technical training, and in these cases, with a background of agreements fixing wages and working conditions, there is close association with education authorities, and facilities for technical education are both encouraged and fully utilised. There can be no doubt that, if wages and working conditions are adequately protected and the fear of an adverse effect on wages resulting from a larger potential supply of skilled workers is thereby removed, there is greater willingness to co-operate in an objective consideration of the value of technical education.

It is desirable that such objective and unbiased consideration should be given to this subject, because it is wrong to regard technical education as of value only for some classes of workpeople. Whatever steps may be taken to fit young persons into the employment for which they are most suited, it is inevitable that a large proportion are bound to take the employment which is nearest and most convenient. Many of those who have to take unskilled employment possess the qualities which fit them for skilled occupations, and, if the will to improve is there, it is desirable that there should be opportunities provided for technical education of which such workers can avail themselves. Those who start as apprentices to skilled occupations are not always those who are best suited for such occupations. Moreover, all workpeople who are sufficiently interested could well have opportunities of having a wider technical knowledge than is required by the particular processes in which they are engaged.

Technical Education in Relation to the Community

It was recognised in the discussions at the International Labour Conference that technical education has to be considered, not only from the point of view of the needs of particular industries, but also from that of the community. It is necessary to provide industries with the opportunity of satisfying their needs, but it is also necessary to take measures to enable the maximum number of workpeople to fit themselves to supply the changing needs of the community and, by adaptability, to keep themselves employed. In many countries the age-structure of the population is changing, with the result that there will be fewer young people and more adults. This will affect the kinds of products required by the population and, together with the natural changes in production, will mean new methods of training adapted to new demands and to new kinds of workers. The average age of workers will be increasing, and the present unfortunate experience of those over 40 who have had only one kind of training indicates the increased need, in approaching circumstances, of workers who by past training are able to meet changes and adapt themselves to fresh needs. In countries, also, in which industrialisation is rapidly increasing, the training of skilled workers requires special action.

From the community standpoint it is necessary that the general level of skilled and technical knowledge shall be kept at the highest point and that theory and practice shall be closely associated in research. New inventions and new methods appear in different countries, and, while these may be known and appreciated by individuals, it is only by a highly developed system of technical education that such knowledge can be widely spread and applied. Doctors keep their knowledge up-to-date by remaining in touch with hospitals and teaching institutions, however wide and varied may be their own work. Similarly, a highly developed system of technical education is not only the instrument for initial training, but also the means by which all those engaged in industry have the opportunity of keeping up to date and co-operating with each other for the general good of their industries and of the community of which they are a part.

The Problem of training Apprentices

Individual employers as a rule bear the cost of training juveniles in their workshops. It is often suggested that the training period is longer than is necessary because there is a desire for some compensation for the cost of the earlier period of training by the work done by the trainee in the later period. It cannot be doubted that, in the future, it will be more difficult for a large number of individual employers to provide the necessary facilities, and it is already the case that, as a result of the reduced hours of work and higher rates of wages of the skilled men by whom apprentices are trained, the cost to the employer is greater than in the past. The fact also that

a high proportion of skilled workers who formerly worked on a time basis are now employed on piece-work makes them less willing and able to give the necessary time for training the young worker, seeing that this results in loss of earnings.

This combination of circumstances appears to lead inevitably to a system by which there will be a more general provision for training and by which it will not depend only upon the capacity or willingness of individual employers to take apprentices or trainees. Already in some industries, as is pointed out above, there is co-operation up to a certain point mainly on the settlement of the course of training and the number of entries. It is obvious that technical education will become of increasing importance and that the circumstances will compel a closer association between industry and education authorities. In that case, however, it may be safely assumed that there will be no less importance attached by industrialists to technical training being carried on as far as possible in the atmosphere of the workshop.

Need for Earlier Contact with Practical Experience

Technical education is not the only branch of education which has suffered prejudice on the part of those who are engaged in commerce and industry by reason of its separation from the activities for which it is a preparation. There is a growing feeling that it would be useful if there could be an earlier contact with practical experience by those who proceed from school to university, and that such contact would increase the value of their mental training. This is specially the case in regard to those who wish to enter commerce or industry, a large proportion of whom have no experience of practical problems until after they have finished their academic training. Another side to this concerns the teaching staff. It is as necessary for them as for students to have up-to-date experience of the practical application of the subjects they teach, not only by reason of the value it would add to their teaching capacity, but also because it would bring greater contact with industry and with those industrialists who fail to appreciate the true value of technical education. The majority of the teaching staff in medical schools practise as physicians or surgeons in the hospitals connected with those schools. Similarly, it may be expected that technical education will develop most usefully along lines which will bring both students and teachers into close association with the industries with which they are concerned, so that technical education will not be a somewhat despised branch of education, but a living part of industry. Many present problems would become easier if such a close contact were established. For example, at the present time, full working days are followed by technical education in the evening. There can be no doubt that this imposes a heavy physical strain on young persons. There is a growing opinion that other more satisfactory arrangements could be made, but these would be possible only if, by some means such as would be possible by closer co-operation,

the workshop atmosphere could be associated with technical education and the work done by trainees fully utilised. An indirect result of the present conditions is that there is little or no time available for improved general education to those who are training for skilled manual work.

The Status of Technical Education

Reference is made above to the fact that technical education is apt to be regarded as a lower form of education. Seeing that so large a proportion of the population in an industrial country is engaged in manual work and that skilled work requires considerable mental capacity as well as manual dexterity, it is anomalous that technical education should occupy a lower place than other branches of education. In a memorandum submitted to the Committee of the International Labour Conference by the British Government Delegation, the following passage is included and may usefully be quoted. It is indicative of the attitude of the Government, employer and worker representatives that they decided to include it in the report.

"Finally, we should like to take advantage of the opportunity afforded by this and succeeding conferences to obtain an exchange of views on the general social status, *vis-à-vis* other forms of higher education, of vocational education designed as a preparation for specific occupations in industry and commerce. As a rule, a vocational training, including periods of vocational practice, is not recognised as a regular and dignified highway leading to a qualification of equal rank with a university degree attained by other paths. The medical and legal professions provide significant exceptions, but technical institutions, their staffs and scholars are not universally accorded the same social prestige as educational establishments of other types, and a boy or girl who at 15 or 16 years of age enters a course of training for industry or commerce is regarded as embarking on a route which is definitely inferior to that pursued by his or her colleagues who remain behind to pursue a course of study in a purely academic environment.

"We think that a useful purpose might be served if this committee, either now or at some future session, laid a claim to better social recognition for vocational training of a non-academic kind."

Great interest will attach to the further discussion of this aspect of the subject at the next Conference.

Conclusion

Finally, it is necessary to bear in mind that technical education does not comprise only teaching in respect of processes and manufacturing operations. It has a much wider range, of which certain subjects have probably not yet received sufficient attention. One of these is the planning of production, and in this connection it is interesting to note that in Great Britain older men are often found

to be more competent in this respect than younger men of more recent training, and to need less supervision. Large-scale production, also, has brought to light deficiencies in the capacity to plan, and in this field there is great need for instruction on the lines of the most advanced technique. Such instruction is as necessary for the workpeople as for supervising staff, since a knowledge of the special needs and conditions connected with large-scale production both facilitates proper methods of work and the settlement of the working conditions suited to them. Equally important is a knowledge of the human problems in a workshop and the methods by which they are best solved. The capacity to make a happy workshop is an important part of technical training, but a part which is greatly neglected. It includes a knowledge of rights and duties, and of the developments in employee and worker relationships. Nothing is more striking in industry than the differences between workshops in manufacturing technique, allocation of workpeople to particular kinds of work and employee and worker relationships. Better and more co-operative technical education should go far to raise the general standard in regard to these to higher levels, to the good of industry and of the community.

F W LEGGETT

CHAPTER FOUR

THE SIGNIFICANCE OF VOCATIONAL EDUCATION IN OUR TIME

THE student of the social trends and developments of our time comes to the conclusion that vocational education is, and will become more and more, an issue of the highest importance and significance.

This is true at least from the social aspect. Perhaps one day the student of educational problems will also find the same from his side. When reformers from both sides meet together in an effort to solve this problem, an important step forwards will be made towards better social conditions for mankind. To-day the observer is justified in the belief that this day is approaching. The inquiries and studies of the International Labour Office are the evidence for this belief.

Since the beginning of modern industrial life there has been no period which has given such a general and intense interest as the present period to the problems of vocational training. In most Western and Eastern countries the traditions, institutions and methods of vocational training are being carefully and closely studied. Plans are elaborated and reforms proposed with a view to adapting vocational education to the needs of the present and future economic life of these countries.

In most other social problems the general trends show great divergencies. But in this problem the opposite is true: the movement of technical education and the principles which it follows in every country appear to bear a considerable resemblance to each other. Everywhere there is visible the same desire to use the opportunity of the general economic crisis to learn from the past and to find the best possible form of vocational training.

Examples of a New Tendency

Sometimes the changing character of our period of transition invites us towards pessimism. We doubt whether the decline and fall of our Western civilisation may not have arrived. But a survey of vocational education is a lesson in optimism. We see how the unknown power behind history is working through the inspiration of leaders and ideals towards a common goal, in spite of apparent differences on the surface. Some examples may be outlined of this "tendency towards a common goal."

(1) Even the highest perfection of machinery cannot take the place of the skill of man or make him superfluous. On the contrary, the higher machines are developed, the more a staff of skilled mechanics is needed for their upkeep and repair. The same is even more true for the construction of such machinery.

Past decades, deeply involved in purely materialistic conceptions, dreamed of an era in which, as in a lovely paradise, man would be superfluous. This conception, if it still exists, has been proved wrong.

(2) In the dream of fully rationalised and centralised production, there has seemed to be no place for handicraft industries, based on the "old-fashioned" system of apprenticeship.

Contrary to expectation, the importance of these industries has not decreased in recent years. In various regions we find a tendency to increase the significance of those handicraft industries as a result of the incentive given by competitive conditions to industries producing high-grade articles in the older industrial countries.

(3) There is no danger that the skilled worker may disappear. On the contrary, in most countries, there is a more or less accentuated lack of skilled hands. Such a demand is creating in many countries a tendency towards betterment, not only in apprenticeship, and vocational education, but even in income and social status. Movements are on foot to open the way for the skilled labourer in spheres formerly reserved for the secondary school or even university-trained engineers.

The impression that skilled labour was dwindling arose because changes had occurred in the special qualifications required. These changes had deprived many able skilled workers of their employment. What is needed is not the scrapping of the older methods of vocational training, but their adaptation.

(4) These and other causes have created what is virtually a new renaissance in apprenticeship. This may be surprising to many theoretical thinkers, who believe that apprenticeship is a kind of mediæval curiosity of which the place could be fully taken by a kind of secondary school training.

The general tendency is in the opposite direction. Many countries are making great efforts to revive apprenticeship, but at the same time to put it under the *direct* (as in Holland and France) or the *indirect* (as in Denmark) influence and supervision of education in the general sense, or even of the educational authorities.

Education is expanding outside school, it is tying more and more to use as its instruments, not only teachers, but also foremen and craftsmasters, their function is being incorporated in the "climate of opinion" (to use Whitehead's expression) of education.

Such an expansion of educational function and virtues by way of apprenticeship to the inner ranks of industry is a great achievement. The significance of the phenomenon cannot be over-estimated. Social planning should take it fully into consideration.

(5) There is a growing tendency to increase, not only the skill, but the intelligence of the worker. One could even speak of a new form of practical civilisation, arising out of the new sense of responsibility of the new type of worker. No longer will the practice of one manual activity remain unchanged through a worker's lifetime.

On the contrary, rapid change may everywhere be the rule. To these changes the work will be adapted. A worker's abilities are changing over from a static to a dynamic capacity.

(6) The increased demand for general knowledge is putting on schools—as in preparatory stages of vocational education—a new and high responsibility. (In many countries complaints on this score are by no means uncommon.) The more general intelligence is developed in the infant stage, the better will the adolescent make himself fit for his vocation and work. Manual skill is only a part of the whole development of the young personality—not an attribute of a certain uneceptiveness in intellectual matters. The bright and well-instructed boy is the more efficient, both on the score of his intelligence and his skill. In fact, these two abilities are in no sense mutually exclusive, but rather deeply interrelated functions.

(7) General education as a part of vocational education is being developed more and more in many countries. We are approaching, not only a new labour civilisation (see point 5 above), but a new labour culture. History, literature, foreign languages and even philosophy are being developed as part of vocational education in many systems—France is only one example. This culture has a strong social character. Here may one day arise a renaissance of a new type of humanism.

What is new in it is simply the wider application of the spirit, the tendency is old. We find it strongly represented in Grundtvig's conception of mass education in Denmark. Vocational education in this conception should be not only accompanied by but based on a profound general education adapted to the human mind as it awakens to manhood.

(8) Based on these premises, the idea of compulsory education up to 17 or even to 18 takes on a new significance and a new importance. Two tendencies are visible. In some countries a movement towards general compulsory education up to 18 is growing, but a new and elaborated form of vocational education of the type described above, from the year 14 or 15 onwards, is the more common. A vulgarisation of general abstract secondary education down to the level of the mass of school children has been abandoned, it has proved in many respects a failure. But the new type of vocational education is fully qualified to take the place of this antiquated conception of abstract schooling up to 18 as the proper education for the masses as well as for the few.

It is obvious that adolescence calls for activity and experiment more than for anything else. The new vocational education satisfies this need, and on a well-prepared practical grounding the flowers of humanism and general intelligence blossom surprisingly well.

(9) Parallel to this demand for compulsory education up to 18 there is a growing demand now for compulsory apprenticeship. This tendency has been shown most clearly in the Bill recently submitted by the General Director of Technical Training in France to the

Higher Council for Technical Education, which says "from fourteen years of age until the completion of the seventeenth year, any child employed by or admitted into any public or private industrial or commercial establishment shall be considered to be an apprentice, with the exception of those children who have been declared unfitted for any form of apprenticeship by the vocational guidance service."

This phrase "shall be considered to be an apprentice" is deeply significant. It not only includes an obligation to attend some form of regular school for some time every week, but it also includes an obligation on the employer to regard his young labourer as "more a learner than an earner." In other words, we have here once more the tendency to enlarge the social function of education and to amplify the teaching given under professional teachers with instruction at the hands of the master craftsmen. The old patriarchal form of apprenticeship gives way to educational apprenticeship—in the wider sense now attaching to the word "education."

(10) The last point mentioned here shall be the new significance of vocational guidance inside the revised and renovated system of vocational education. As practical activities are now mingled with bookwork, vocational guidance is developing from guesswork to a reliable technique. Observation during practical work combined with expert guidance forms by far the best system. If the teachers and craft supervisors, as a normal part of their educational work, are trained to carry out this observation, they can be by far the most effective instruments of guidance, provided that they are continuously directed and supervised by vocational guidance specialists.

In this connection a further passage from the same Bill proposed by the Director of Technical Instruction in France is relevant.

"No young person under seventeen shall be allowed to be apprenticed to an industrial or commercial undertaking unless he possesses a certificate issued, free of charge, by the vocational guidance service of the Department."

Conclusion

These are some of the points resulting from the careful study of this problem which is being carried out by the ILO.¹ These points in particular have been emphasised for the interest of those readers of the YEAR BOOK who specialise in the application of educational ideas to the problems of everyday life. The other side of the question—the bearing of vocational training on industrial and social problems—has not been considered here.

But it is to be hoped that the significance of these educational

¹ See Preface to the Volume *Technical and Vocational Training and Apprenticeship*, International Labour Conference, 24th Session, Geneva 1938. The Preface in question is reprinted in vol. XXXVII of the *International Labour Review* (No. 2, February 1938).

points will be appreciated and considered seriously by those on whose actions and decisions the future shape of education depends. Some of the points may appear surprising, even revolutionary. But when life itself speaks, do not traditions often have to yield? All these new tendencies in the vocational field are not man-made, but life-made. They are dictated by necessity, and to-day we should have learned to recognise the force of necessity and to act on it in good time.

What is the lesson we have to learn? Is it not that general education and vocational education are not opposites, but parts of the same whole? Separate, their weaknesses are apparent, together, they derive strength from each other.

LUCIE SCHMIDT

CHAPTER FIVE

TECHNICAL EDUCATION AND ITS RELATION TO INDUSTRIAL MANAGEMENT

Introduction

THE scientific mind, through impinging on the forces of nature, is mainly responsible for this age of machines which characterises our twentieth-century civilisation. MACHINES, MOVEMENT and ENERGY are the dominant material forces. MAN is at the very centre of this complex network of processes, and the continual struggle to obtain and maintain proper balance between machine forces and mind forces has reached a gravely critical phase. The technician, whether in the realm of growing things, making things or transporting things, has become the corner-stone of our civilisation. He is now a key member of our social structure. Whether this structure be good or bad depends fundamentally on whether the teams of technicians are good or bad—using the terms “good” and “bad” in their widest and deepest sense.

Technical Education is the process of selecting, training and adapting the onrushing stream of eager and expectant youth, so that we may provide technicians both in the quantity and of the quality demanded by the expanding requirements of our mechanised era. Clearly, therefore, technical education and everything appertaining thereto are matters of primary consideration at this time. Indeed, it is doubtful whether any other phase of national activity is of greater importance. The roots of so many of the problems which now disturb and gravely distress the world run deep into the realms of education. Technical education is a phase of this vast problem of education to which we, as a nation, must give serious and immediate attention if we are to surmount successfully the great dangers which lie ahead.

Man and the Machine

If our civilisation is to endure, if we are to expand further the untold benefits which can come from scientific mind-intelligence expressed in machine processes, if we are to spread the gains, both material and cultural, equitably amongst the masses—then we must so plan and control national activity that a just and proper balance is held between economic and spiritual values. There is now a vast body of intelligent opinion which is convinced that our present-day troubles are primarily due to the phase advancement of the evolution of the mind of man in relation to the development of his spiritual nature.

Man at heart is a spirit, and this intangible part of him partakes of the divine. Therefore, a balanced individual life, a balanced

group life, a balanced national life, can only come through a spiritual awakening. We must all lift our eyes from the material forces which clog our vision, to those eternal verities which are set high in the spiritual firmament. We must recognise Christian principles as the most practical and dynamic in this age of mechanical complexity. So inspired, we must be prepared to dedicate our lives unselfishly, and in a spirit of service, to the common good.

Believing that a free personality is the greatest thing in the world, we must yet be prepared to co-operate with our neighbour in the spirit that "we are all members one of another." PLANNING, TEAMWORK and SERVICE are the golden keys that can unlock the door which—for a while only, we pray—bars our entrance to a New Era in which all peoples can find greater LIFE, greater LIBERTY and greater HAPPINESS.

Our Industrial Future

If we can obtain a picture of our industrial structure in future years, we should be able to determine what changes, both of process and purpose, should be made in our system of technical education to meet the needs of the new era. Industry and education are faced with a common task, and the right solution can only be found by wise and objective co-operation between those in control of our educational establishments and those in control of our industrial establishments. Especially is this true of technical education, because we shall be forced to rely, more fully than ever before, on our technical education establishments for providing industry with technicians qualified to operate and control the nation's industrial machine.

Thus viewed, the evolutionary course of our industrial future is set on the path of planning and co-operation—all objective to communal service. This does not mean that individualism and the profit objective—dominating characteristics of our nineteenth-century *laissez-faire* industrial growth—will be destroyed. But it does mean that planned co-operation for the common good will take the place of wasteful and soul-destroying competition. And it also means that the profit objective will be brought under control, to maintain a just and balanced relationship between those primordial money elements—wage level, price level and dividend level.

The Need for a Planning Control Board

These conceptions, if applied with sincerity and enthusiasm, should ultimately bring us to the stage where those industrial units concerned with a common purpose would desire to align themselves and establish from within some form of Planning Control Board which would guide the progress of co-ordinated industry, to the advantage both of those within the industry and all those outside who are served by it. We hold the view that the Planning Control Board for an industry should be *democratically elected by all of the*

industrial units in the industry to represent in balanced proportion all the industrial partners, which are (1) Labour, (2) Management, (3) Capital, (4) Customers

A Suggested Constitution

One could visualise such a Control Board being set up for the textile industry or the electrical manufacturing industry. It would be necessary, at the same time, to establish a constitution, which would virtually set the standards of achievement for each and every industrial unit within the industry. For example, this constitution might cover

(1) The principle of limitation of profit distribution should be adopted. Once the dividend level had been determined, any surplus in any unit over and above the agreed amount would be paid into a common fund for the whole industry, to protect

(a) The human factor in respect of physical training, education, sickness, pensions

(b) To protect capital through a dividend level fund

(c) To protect wages through a wage level fund, and

(d) To protect the industry through a research fund to ensure that there is wise and adequate expenditure on research.

(2) The basic principles underlying the make-up of estimated and actual costs would be standardised, and rigidly enforced in every productive unit within the industry. This would entail standardisation of methods in payroll sections, estimating and cost departments, order departments and accountancy and book-keeping departments. The meaning of direct labour, indirect labour, establishment charge, factory operating expense and factory cost would be clearly defined. The make-up of labour, wastage and operating reports would be standardised and the frequency of their issue determined. Thus there would be achieved a unity of thought and method throughout the whole industry regarding those measuring sticks upon which management must rely to gauge the overall efficiency of the productive effort. Such unification would facilitate cost investigation, and make it relatively easy for management to maintain throughout the whole co-ordinated industrial structure an intensive concentration on that vital factor—COST REDUCTION.

(3) Every production unit would have to establish and maintain an apprentice training department. The scheme of apprentice training would be standardised throughout the industry in respect of its main essentials, thus permitting minor modifications to meet the specialised needs of a particular unit.

(4) Every productive unit would have to establish and maintain a research and development section. The work of these sections, scattered throughout the industry would be subject to the guidance of a Director of Research (who would ultimately control a Research Organisation dedicated to serving the whole industry)—reporting

direct to the Planning Control Board of the whole industry. Research would be paid for out of a common Research Fund, and every productive unit would pay into this fund a levy which would represent a fixed proportion of the total turnover of the unit.

(5) Every productive unit would have to establish an Inspection Department, responsible to the management, whose primary function would be to guard the quality of the product. To this end, it would guard the quality of all incoming materials, which, so far as possible, would be purchased to specifications standardised throughout the industry. The inspection at various stages of manufacture would be determined by each industrial unit, on the basis of maintaining *uniform standards of quality* throughout the co-ordinated industry.

(6) Principles regarding the physical layout of manufacturing units would be established, such as

- (a) The standardisation of motorised machine tool units
- (b) Colour schemes
- (c) Safety First methods
- (d) Lighting methods and intensities for different classes of work
- (e) Lavatories and washing facilities
- (f) Canteens
- (g) Overalls

Functional Responsibilities of the Board

The Planning Control Board would do its work of co-ordination and planning through a permanent executive team of functional Directors, in charge of a Managing Director. These functional responsibilities would be

- (a) Industrial research
- (b) Estimating, cost and statistical investigation
- (c) Production planning
- (d) Distribution
- (e) Education, apprentice training and welfare
- (f) Management
- (g) Finance, legal and patents

These Directors would assist all the industrial units to reach and maintain the high standards of achievement established by the constitution, without destroying the industrial personality of any unit or damping its enthusiasm and initiative.

With such Control Boards established for the whole range of industry—some twelve only would be needed—it would become possible to create a National Planning Control Board to act as a co-ordinating and directive body. It would strive to develop co-operation between the Industrial Planning Control Boards, objective to improving the efficiency of the nation's industry in the best interests of *all* sections of the community. This Board would comprise the Chairmen of the Industrial Planning Control Boards, the Heads of certain Government Departments directly concerned with industrial problems, and three or four independent members appointed by the Prime Minister. The Chairman of this National Board, through becoming a Minister of Industry with a seat on the Political Cabinet, would afford an effective link between the higher control of our political mechanism and the higher

control visualised for the orientated and co-ordinated industrial mechanism

The Stratas of Managerial Control

Any business structure is a human structure. Its ultimate success or failure depends fundamentally on the quality of the human structure, and especially on the spirit of the integrated human effort. If we are to secure good business results we must first see to it that the business is worked by good men—using the term “good” to embrace, not only technical qualifications, but those more indeterminate attributes which are an integral part of sterling character and high moral purpose.

In every business the responsibility is graded down as we descend through the team from the higher control to the humble operator working a machine on the floor of the factory, or in another direction, to the office boy, eager and expectant as he labours on the threshold of his career. All those in responsible positions are controlling the activity of a group of workers. Thus the strata of managerial control in the case of a large manufacturing organisation can be divided as follows:

Chairman of Board	Chief executive in charge of the completely integrated group
Directors	Each responsible for a functional group, such as <ol style="list-style-type: none"> (1) Engineering, Research and Design (2) Manufacture (3) Sales and Distribution (4) Finance and Legal
Under each of these main functional Directors there will be numerous subdivisions of group responsibility, graded as follows:	
Manager	Responsible for complete group, say, in a manufacturing organisation
Suprcintendent	Responsible for a section of this group concerned with a particular product
General Foreman	Responsible to the Superintendent for subsection of his group. For example, a large Machine Shop
Foreman	Responsible for a division of the subsection controlled by the General Foreman
Assistant Foreman or Chargehand	Responsible for a small section of the division controlled by the Foreman
Skilled or semi-skilled worker	Functioning as an individual unit, in association with others to give a relatively small group of workers controlled by the Assistant Foreman or Chargehand

Diversified Nature of Qualities Required

The individual qualities needed to meet the demands of this wide range of responsibility—from the chairman of a company to the skilled craftsman required in the Tool Room—are clearly diversified. But our system of technical education, if it is to keep abreast of the onrushing tide of industrialism, must so put its house in order that it can meet all such demands made upon it by industry both in respect of quantity and quality. Is there a common denominator to this problem? Are there any primordial characteristics which must belong equally to the chairman and the toolmaker, and to all those in between these two extremes, no matter what the grade or the degree of responsibility may be? We think there are, and would set them down as follows:

- (1) The ability to co-operate with others
- (2) A sense of humility, from which should radiate a continual urge to make progress
- (3) An attitude of mind which is always open. Thereby a willingness to learn from others and integrate this knowledge so that it may benefit the individual and the group which he controls
- (4) A spirit of SERVICE, which recognises the COMMON GOOD and expends itself in a daily effort that is *only truly satisfied* through knowing and feeling that the individual has given of his very best
- (5) A feeling of "goodwill towards all men" expressed as a real affection for those in his immediate group. Such a feeling will generate unselfishness and sacrifice, if demanded by the group activity

Need for a More Liberal Education

Now this segregation of the "common denominator" reveals characteristics which have nothing to do directly with technical education in the sense in which it has been developed in this country during the past four decades. Our system has been unbalanced. It has concentrated too forcibly on the purely technical and mechanistic aspect of its work. It is no exaggeration to say that the world is now on the edge of chaos, because the scientific and purely technical evolution of the mind of man has got too far ahead in phase relation to the evolution of man's spiritual nature, and the development thereby of a true social consciousness and social awareness. If technical education is to rise to its great and unique opportunity in future years, it must correct this maladjustment. This means that the mind of eager and expectant youth must be provided with a foundation of knowledge which embraces the humanities and imponderables. The educational process must seek to develop an interest in MAN as MAN—in the intangible part of this wonderful mechanism. Philosophy, history, psychology and ethics should be taught and blended in such manner as to give the student an everlasting interest in, and a ripening understanding of, the intangible forces of dominating

importance which actuate the hearts and minds of the whole human family

Every student should be afforded an opportunity to study the fundamentals of such a liberal education. The course of instruction could be contracted or expanded around these fundamentals, depending on the range of technical and scientific studies which would be superimposed on this humanistic foundation. Running like a silver thread through the co-ordinated course of training would be instruction in handwork. Man is given a brain, and hands to translate into effective work the functioning of his brain. A truly balanced life can only result when these great instruments work in harmony. In the case of a youth being trained for a craftsman, the instruction in handwork would necessarily represent the major part of his education. But sufficient instruction would be given in both the humanities and technics to produce a balanced craftsman—that is, a craftsman who has a true appreciation of value of his work in relation to the complexities and responsibilities of the social structure of which he forms an important co-operating link. On the other hand, a youth being trained for a high managerial position would be subjected to less handwork training, but to a prolonged and thorough course of instruction in the humanities. This to be followed by purely scientific training applicable to his particular profession. Finally, he should be given instruction in economics, finance, costing and company law.

The superstructure of technical training erected on the humanistic educational basis would be naturally varied to meet the demands of the particular stratum of responsibility to which the education is objectively directed. In every case, the training should inculcate three "senses" which are still very rare in British industry

- (1) A money "sense"
- (2) A time "sense"
- (3) A cost "sense"

No worker in industry, no matter what his position may be, can use his powers of service to the fullest extent unless these "senses" are ever present with him.

Co-operation between Industry and Education

Industry has suffered in the past, and still suffers from the erection of an artificial barrier between the preliminary educational stage and the subsequent and more prolonged industrial educational stage. These barriers must be broken down, and the complete cycle of education viewed in unified and broad perspective. Progressive educational thought is moving in this direction. Lord Eustace Percy, a late Minister of Education, has said

"We have to inform industry of the structure of education as it exists, indicating the reforms we are endeavouring to carry out

and the objects we are seeking to attain, and we have to devise *new* machinery for working out plans for further development in harmony with the requirements of trade and industry."

We desire to stress the paramount need of the common alignment of the forces operating within our technical educational and industrial institutions, because this need permeates the very core of the problem now under review. Industry and education no longer connote two separate worlds of human thought and action. The rapid and continuous changes in industry are having an inductive effect of tremendous importance on education. Our educational methods, especially in the vast and largely untilled field of technical education, must respond to this influence, so that the national team can move forward along a more enlightened plane of endeavour and achievement.

To illustrate this line of thought, just visualise a future industrial state when the material plane of existence has been greatly elevated with an enormous reduction in the hours of daily toil—say to 25 hours per week. This is no wild visionary forecast, but a practical achievement which must inevitably come from the steady development of the scientific mind. But do our educationists realise fully that this tremendous change may mean that within two generations, our whole educational objective will have to be swung through half a circle, and the system so modified that education in the preliminary and all-important stage is for LEISURE, and not LABOUR?

Co-operation between those in control of our technical colleges and institutions, and those in control of industry, is necessary to achieve maximum success. Such a co-operative endeavour can only arise when those in control in the two spheres of activity respectively recognise their responsibilities. All those concerned with this great problem must work together in a spirit of goodwill, having in mind all the time that the great purpose in view is so to improve the working of our industrial structure that it will seek to combine two primary impulses—the making of good things, and the making of good men.

In working out such a co-operative policy directed to the improvement of human structure in industry, it will be necessary to establish a condition whereby there is a free interflow of those in responsible positions between the world of technical education on the one hand, and the more complex world of industry on the other. It should not be impossible to work out a plan whereby some of the key people in industry are given, say, every seven years a refresher course in our technical colleges and universities. Conversely, it is necessary that similar action should be taken with the teachers in our technical educational establishments, so as to enable them to take refresher courses for at least a year's duration, within industry. This intermingling of responsible men drawn from both spheres would have a beneficial effect of outstanding value in improving the co-operative effort, and directing it along the path of improved industrial service.

The Apprentice Training Scheme in the B T H Co's Works, Rugby

The B T H Company has been one of the pioneers in implementing these principles of co-operation, as evidenced by the Apprentice Training Scheme in the Rugby Works, which is renowned throughout the world. The local conditions have always been favourable to this co-operation by virtue of the fact that approximately two-thirds of those living in Rugby are either directly or indirectly dependent on the activity of the B T H Company's Works. Even so, the developments which have taken place during the last twenty years would not have occurred if there had not been a keen desire, first, on the part of the governing Board of the Company, and secondly, on the part of those in control of technical education in the town, to work together in the closest harmony. Rugby is the only town in Great Britain where the part-time educational requirements of the Fisher Act have been faithfully implemented.

The Company has evolved a comprehensive Apprentice Training Scheme, which has won for itself wide recognition throughout the industrial and educational spheres in this country. No premium is paid, and from the commencement of the apprenticeship the youth receives payment for the work accomplished in accordance with predetermined wage schedules for the different grades of apprentices. The training in the Works is supplemented in many cases by part day-time training at the Rugby College of Technology and Arts, the time during which the apprentice is absent from work to attend the College being paid for at the normal rate.

The electrical industry is extraordinarily complicated and demands for its successful development highly specialised ability. The B T H Apprentice Training Scheme is the means by which that Company is testing, adapting and training the inflowing stream of young human material—surely the most important and valuable thing flowing into any organisation—so that in the years to come the outstanding ability in this onrushing stream may be qualified to manage the business more efficiently than those who have gone before. Only by the application of this attitude of mind to all industrial problems can true progress be made, and the absence of such application in years gone by is largely responsible for the impaired state of some of our basic industries.

All boys and Apprentices are controlled by an Apprentice Supervisor directly responsible to the Superintendent of the Personnel Department. He also controls, and is located in, an Apprentice Training Department housed in a separate building. The outstanding feature of this training is that the boys continually do normal production work, specially selected to suit the machine tool equipment provided.

An Apprentice Committee comprising responsible Heads of many sections of the organization guides the general policy. The closest

possible connection is maintained with the local educational establishment, and the leading technical colleges and universities. The Chairman of the Apprenticeship Committee is a member of the Rugby Further Education Committee.

The B T H schemes embrace four main courses of training, adapted to provide and select those who may ultimately perform successfully the great range of tasks that must be accomplished in the Company's highly complex business. The positions which we seek to fill range from skilled toolmaking to the greater responsibility of higher executive control.

The junior classes of apprentices are selected by the Apprentice Supervisor or the Secretary of the Apprenticeship Committee in consultation with the Superintendent of the Personnel Department. The senior apprentices—the engineering and student classes—are selected by the Apprenticeship Committee after a process of short listing at a preliminary interview at their respective colleges. With the object of obtaining an assessment which can be used for comparing individual applicants interviewed at different times, an interview chart is used. We have developed a system of charting the observed characteristics of all our apprentices for the general guidance of the whole organisation. This is found to be invaluable when the course of training has been completed, and the problem of fitting the apprentice into the suitable niche in the organisation has to be solved.

All our apprentices are expected to take a course of training at the Rugby Technical College, the number of attendances depending upon the class of apprentice and his ultimate objective. The Technical College Courses are divided into three main groups: Trade, National Certificate and Degree Courses. The payment for daytime attendance at the College is credited to the apprentice's savings book at the end of each term, and forms a reserve fund from which he can draw to pay his examination fees and other special expenses incidental to his training.

Each apprentice has to follow a specified course of training—varied in certain individual cases to meet his special needs—and this involves a stay of from three to six months in each department. It is a rigid rule that the apprentice must be moved by the departmental Head at the expiration of the time limits for his particular department, which is established by the course of training. When an apprentice is found to possess qualities of personality, initiative, common sense and executive ability above the average, his training is modified to permit of the intensive development of these qualities, and such apprentices are ear-marked for important positions within the organisation.

The training in the Works is supplemented by evening-class study at the Rugby School of Technology. To this end, the Rugby School of Technology has in recent years inaugurated a course of tuition in industrial administration. The course is spread over three years and follows the general lines laid down by the Institute

of Industrial Administration Those qualifying for executive positions in the manufacturing organisation would be expected to attend these classes

Training for Senior Positions on Works Management Staff

Since 1919, we have relied on our Apprentice Scheme for the training of young men for executive positions on the manufacturing side Whilst in earlier years this scheme fully supplied our needs, the swift evolution of manufacturing technique in recent times has made it necessary for us to extend the range of our Engineering and Student Courses to embrace a Post Graduate Course, devised to provide a group of young men from which in future years we can draw in filling the higher executive positions in the manufacturing organisation

This Post Graduate Course is of two years' duration and is intended for specially selected apprentices of outstanding ability who have completed their normal apprenticeship

The time expended on this course is divided as follows

Inspection	3 months
Cost	3 months
General Planning	5 months
Operation Planning	4 months
Motion Study	3 months
Training in other factories within the A E I Group	6 months (in two periods of 3 months)

Those attending this course attend the classes in industrial administration at the Rugby Technical College, and special lectures on administration are also arranged from time to time For example, we arranged, in collaboration with the Technical College, for the following lectures to be given during the session 1937/1938

Sept 21st, 1937	"The Trend of Development of Modern Industry" <i>Lecturer</i> Hugh Quigley, Esq, M A (Hons), Head of Economic and Statistical Section, Central Electricity Board
Oct 26th, 1937	"Mechanical Aids to Administration" <i>Lecturer</i> W Desborough, Esq, O B E, General Manager, Powers-Samas Accounting Machines, Ltd
Jan 27th, 1938	"Modern Foremanship" <i>Lecturer</i> H Whitehead, Esq, B B A, Principal, H Whitehead & Staff, Business Management and Research
Mar 3rd, 1938	"Sales Management and World Affairs" E N Simons, Esq, Publicity Manager, Messrs Edgar Allen & Co, Ltd, Sheffield

The Industrial Administration Course at the Technical College extends over a period of two years, divided as under:

The *First Year Course* covers the external factors governing both Industry and Commerce and deals in general terms with those practical issues that have to be faced in the administration of any industrial undertaking, thereby giving a real insight into the many manifestations of the management problem.

The *Second Year Course* deals with the general principles and practice of Works' Organisation and Management, and is designed to supplement the opportunity given during the period of practical training for intelligent observation and inquiry regarding the technique of Industrial Administration.

The Course provides the necessary preparation in this subject for the Associate Membership Examination (Part C) of the Institution of Mechanical Engineers, and students who satisfactorily complete the Course are granted exemption in Fundamentals A, B and C of the examination of the Institute of Industrial Administration. The Course also covers the requirements of the Institution of Electrical Engineers in respect of its examination in Engineering Organisation, Management and Economics, which can now be taken as an optional subject by students sitting for the entrance examination.

A P YOUNG

CHAPTER SIX

PROBLEMS CONFRONTING TECHNICAL EDUCATION IN ENGLAND

The Cultural Value of Technical Education

ONE of the continual tasks of those concerned with technical education is to demonstrate its cultural possibilities. There seems always to be a prejudice against technical education because of an idea which still persists, even in quarters which ought to be better informed, that its business is very largely the training of plumbers and carpenters. That kind of thing is, of course, something which it does among its many other functions. So it should, and so it must, and there seems to be little need for apology on that score. To enable a plumber to know his job and to do it skilfully contributes in no small measure to human happiness.

Technical education has had to spend, however, a good deal of time showing that its cultural possibilities are as great as those of other forms of education which are generally, and uncritically, accepted as humane and liberal.

All sorts of arguments have centred round the word "culture," a word which is about as difficult to define as art or love. With that difficulty in mind we shall not, for our present purpose, attempt any exact definition, but we believe we shall not be far wrong if we assume that it is simply being at home in our world. The symptoms of "gaucherie" are usually the product of contact with that which is strange and foreign. Let us first be clear, then, about the world our pupils have to enter. It is not enough to say that any kind of education is for life. We have to ask what kind of life? Do we mean the life of the Greek city state, or the Middle Ages, of the nineteenth century, or what? Too frequently educationists get away with vague generalities.

The world our pupils enter is a rushing world of industry and commerce, a world of clashing ideals and ideas, a world of uncertainty, confusion and struggle. The old values will not always be sufficient, the old ways of thought not always safe. Beauty will be found in an ordered state just as in pictures and statues, and all work leading to that ordered state, no matter how apparently menial, has a fundamental value. The learning of the principles of trades and professions—from those called *artisan* to the highest scientific callings—is the concern of technical education, but it is not forgotten that the *good* workman must also be the *good* man, and that combination of the two *goods* forms a point from which branch out all roads leading to higher and more complex pursuits. Spiritual things rest on a material basis: if education neglects that basis, it runs the risk of puerile futility.

One of the first problems of technical education, then, is to get

that point of view over, not only to educationists, but also to the general public. It is not sufficient merely to claim equal cultural possibilities with other forms of education. That is an apologetic attitude which gets nowhere against hardened prejudices. Technical education must make the bold claim that it is forging a new culture which shall embrace the real romantic and exciting—even though confused—civilisation which a scientific age is producing.

But, to do that, it has still further to look to the content and scope of its work. It has to make even yet plainer that it can demonstrate to pupils how then professional work is related to that of their fellows. Its culture should not be just an accidental implication of the efficiency with which scientific principles are taught. It must seek a deliberately designed plan of what is known as the teaching of citizenship. Already technical associations have examined and reported on that problem. They have yet to find out whether their suggestions can be put into practice.

The Problem of Teaching Staff

This very matter, however, produces another problem. It is one thing to produce a plan, it is another thing to implement it. One of the chief criticisms which has been levelled against technical education is that its teachers have not usually been trained to teach anything but their own specialist subjects. We do not think the criticism can be sustained, especially in the light of past experience. Nevertheless, training might be a considerable help, although the usual course of training for teachers would not usefully serve the technical teacher. In any case, technical education must seek the services of men and women who have been in industry and commerce. This raises the serious problem, however, that in the majority of cases, teaching will not have been the original intention of such men and women, and, therefore, they will have had no training in its technique. The problem is further complicated by the natural reluctance on the part of an authority to grant leave of absence for a lengthy course of training immediately on appointment. Thus, some scheme has to be evolved which will enable teachers with the required experience in industry to carry out their job of teaching and at the same time undergo a course of teacher-training. Technical Associations are examining this problem, and it is hoped that a satisfactory solution will be found.

Special Disadvantages attaching to Technical Education

A vast amount of technical education in this country takes place in the evening. The drawbacks of that system hardly need repetition. It is perhaps enough to say that if apprentices and other workmen have already done a full day's work in factory or office, we put heavy demands on them if we ask them to grow up three evenings a week to intensive study with all that that entails in the way of homework. Clearly a considerable gain would be secured if the

representatives of technical education could meet those of the employers' organisations and trade unions with a view to the establishment of courses in technical colleges during the working day, and to the abolition of overtime for young workers who take those courses or who, because of some reason or other, have to take courses in the evening

Linked with this problem, of course, is the general one of apprenticeship. As industry has evolved, apprenticeship in some cases has tended to decay, and in others is still performed under rules which take no heed of modern conditions. This aspect of the problem was recently stated in a resolution passed by the Association of Teachers in Technical Institutions in which a request was made "that the conditions of apprenticeship or its equivalent should be re-stated for the several industries, and that consideration should be given to the claims of young people who have satisfactorily completed a full-time course in approved technical institutions in respect of the age at which they may be recruited, and to the period of time required of them for completion of such apprenticeship."

The Need for an Adequate Scholarship System

The provision of more and more day courses of study for students who are already engaged in industry and commerce, however, is not the whole of this problem. If technical education is to be on an equal footing with secondary education, it must be provided with an adequate system of scholarships which would enable students in industry, if they have satisfactorily completed courses of study in approved technical institutions, to proceed to full-time day courses in a university or technical college. The provision which exists at present is by no means as adequate as that existing for secondary schools. It is true that some scholarships are provided by a few local education authorities, certain professional or trade institutions, and through endowments attached to particular institutions, but opportunities for deserving students are neither sufficient nor equal. Only by the institution of a system of State scholarships which will provide for the payment of entrance, tuition and examination fees, together with adequate maintenance allowances, will the problem of equality in this connection be satisfactorily solved.

The Junior Technical School

Probably the most successful type of school developed in recent years is the junior technical school, which takes pupils from the age of 13 plus. The length of the course is approximately two years, and has what is called a "bias" towards industry, which in many cases happens to be engineering. Practically every committee of inquiry which, during the last ten years, has had to deal with aspects of education and industry has underlined the signal success of this type of school both from the standpoint of education and of industry.

The courses provided are broad and liberal and leave nothing to be desired from the cultural point of view. The junior technical school is, in fact, a secondary school in the proper sense of that term, i.e. a post-primary school fulfilling a very definite need. But it presents a problem. We have now assumed, at any rate for administrative purposes, that primary education ends at the age of 11. At that age the traditional secondary schools take the cream of the primary pupils, and, as a result, the junior technical schools which take pupils at 13 plus must be content with those who are left. The obvious solution to the problem would be to lengthen the junior technical school course by admitting pupils at the age of 11 and thus to put the junior technical school on terms of equality—as an alternative form of secondary education, but not under the secondary regulations of the Board of Education—with secondary schools. The argument brought against this is that the age of 11 is too early for a pupil to decide on his future career. That is true, but it is not suggested that it is necessary for him to choose his future career. The vast majority of pupils will go into industry and commerce—that is precisely what the majority of secondary school pupils do, since only the very few go to the university or enter what are called the learned professions. Why, then, is the junior technical school viewed differently from the secondary school?¹ Prejudice, not restricted to educationists, however, is probably at the root of the whole matter. The average parent knows little about the junior technical school, and consequently a tradition has grown up which gives to the secondary school a cachet not unlike that attaching to the older public schools. To overcome this the technical educationist will have to learn from the advertiser how to get his goods valued by the public. In the meantime, experiments are being made in one or two areas where the admission age to the junior technical school is 11.¹

Conclusion

What has been said above by no means represents all the problems with which technical education is faced. It would be tempting, for example, were it not for the limitations of space, to reflect upon the question of how to make technical teaching more attractive as a profession. At present, it is clear that full-time technical teachers must divide their service between day and evening teaching. If they are relieved of evening teaching in favour of the part-time teacher, it must be expected that the latter will be concerned only with the teaching he has to do in a specified time. It will be difficult to lead him to the intense interest in the work of the whole college which develops the corporate spirit so necessary to the success of the institution, and into the relationships of subjects which, alone, can produce the wide educational theory of citizenship which we have indicated as a desirable necessity.

¹ Among these is Essex.

Nevertheless, if the problems of making known the cultural possibilities of technical education, of increasing the quantity of daytime courses, of providing adequate scholarships, of bringing up to date the apprenticeship system, and of putting the junior technical school on a footing of equality with secondary schools be satisfactorily solved, many of the difficulties of technical education will disappear

J WICKHAM MURRAY

SECTION TWO

Technical Education at Work

I EUROPEAN COUNTRIES

CHAPTER ONE

APPRENTICESHIP TRAINING AND THE GERMAN EXECUTIVE OF THE TECHNICAL SCHOOL SYSTEM

Introduction

THE training of an able rising generation in all fields of industry and trade has always demanded the greatest care and effort on the part of industry and the State. With the rise of modern industry, the division of labour resulting from the introduction of new power machines which changed the original handicraft character of concerns necessitated the introduction of regulations for the organisation of special vocational training for workers. A certain number of large concerns themselves realised the need for vocational courses.

Thus, for instance, the A E G (*Allgemeine Electricität Gesellschaft*) for decades carried out a methodical training of vocational and special workers, engineers and merchants, as well as continued education for adult employees of the firm.

At present there are in training 1,100 vocational apprentices, 100 special worker apprentices, 340 engineer assistants, 105 merchant apprentices, 100 draughtsmen and 300 adults in many classes. As such arrangements were independently developed in different places of the Reich, and therefore varied considerably, the necessity soon arose to bring them to uniformity and to exchange experiences.

Establishment of the "Datsch"

As a consequence, the German Executive for the Technical School System (*Deutsche Ausschuss für Technisches Schulwesen*, known as the *Datsch*) was founded in 1908 with the express purpose of collating the requirements of industry for an adequate supply from the rising generation of special workers, foremen, masters, engineers and merchants. Based on these requirements, the *Datsch*, in co-operation with specialists, had to formulate and disseminate regulations for the actual training of the rising generation. In 1911, a regulation for the appointment of an apprentice was as follows:

"At the appointment of an apprentice, a written agreement concerning his training has to be signed. Practical training of the apprentice in the factory workshop must form the basis of his

education. As supplementary to it, school instruction is necessary. It is urgently desirable that all apprentices in mechanical industries, at the end of their training, should pass a final examination before the committees appointed by the respective industries. An obligation to do so should be included in the agreement as to training. The organisation of the examination should aim at the recognition of it, as a journeyman's test in the meaning of the craftsmen's regulations."

The Training of an Apprentice

Apprentices are usually trained in only one branch of the trade. The education of apprentices has to follow a definite scheme, ensuring a good training and excluding as much as possible a narrow specialisation. This training period should not be abused by the use of apprentices for odd jobs. During the first period of learning, the apprentice should be trained, as far as the conditions of the trade permit, in a separate apprentice division under specially suitable supervision. The practical training of the apprentice should generally be left to industrial and craftsmen's organisations, and the technical vocational schools should, as a rule, only undertake such of the training as cannot be imparted in the trade concerns. Only in special cases, where, according to circumstances, the trade cannot ensure an adequate practical training, or where the purpose is to lighten the burden of industry, should technical schools be furnished with apprentice workshops, as a substitute for apprentice training in the actual trade concern.

The school instruction of apprentices should be given, wherever possible, in special work schools organised by industrial concerns. In some cases such schools can be organised by many concerns conjointly. If, however, circumstances make this impossible, then apprentices should attend public vocational schools, in continuous development of which it is to the advantage of industry to take an active interest.

The various Ministries authorised the *Datsch* to put forward proposals for the co-ordination of the practical training and instruction imparted in technical schools with the demands of industry and commerce. Definitions of aims concerning the preparatory education of pupils, the limits of educational material, the differentiation of schools and their purposes were dealt with in joint committees of the representatives of public authorities, industry and schools. The discussions concerned both the higher¹ and secondary technical schools. The reforms, proposed for higher and secondary technical schools, included, side by side with curricula and school organisation, suggestions for practical training before attending the school (*Praktikanten-Ausbildung*). The main results and proposals were published in a series of *Abhandlungen und Berichte* (Discussions and Reports).

¹ Faculties of Engineering

The Four Divisions of the Datsch

In the *Datsch* the work was carried out in four divisions

1 *General Division* with sub-committees on

- (a) Vocational training
- (b) Technical schools
- (c) Higher technical schools
- (d) Preparatory education

2 *Vocational Division* with main committee on vocations and sub-committees on

- (a) Theoretical vocations (*Lehrberufe*)
- (b) Practical vocations (*Anlernberufe*)
- (c) Suitable requirements (*Eignungsanforderungen*)
- (d) Supply and demand of the rising generation

3 *Technical Division* with sub-committees on

- (a) Courses of theoretical instruction
- (b) Courses of practical training

4 *Division of the System of Exhibitions* The work was accomplished in a series of sub-committees, representing industrial and trade branches, practical experience and the German Labour Front in an honorary capacity

In 1918, the *Datsch* started to expand its activities to the field of textbooks and other means of instruction. In 1919, after a detailed consultation with specialists on the basis of proved experience of the training workshop of the A E G, appeared the course for engine fitters (*Maschinenschlosser*). It included a collection of design sketches for apprentice work in basic instruction, and a time-table for training in the important vocational skills. Later it was followed by courses for modellers (*Modelltischler*), moulders, smiths, locksmiths, instrument-makers, tinkers, electrotechnicians

Also, in the building industry courses for masons, carpenters, joiners, concrete workers

During the elaboration of these courses, the skills necessary for the apprentice were discussed, and the short summary of them resulted in the so-called "picture of the vocation" (*Berufsbild*)

During the years 1925-6, the study of vocations was expanded and the "vocational pictures" for the industrial branches of machine construction, electrotechnics and shipbuilding were prepared in detail. Since 1934, this work has continued in co-operation with the *Reichsgruppe Industrie* (National Industrial Group) and Reichs Ministry of Economy (*Wirtschaftsministerium*) and was combined with the formation of examination requirements which have been adopted since 1937 by Chambers of Industry and Commerce for special workers. The *Datsch* succeeded in winning recognition for more than 200 "vocational pictures" of special vocations in more than thirty branches of industry and trade. The following example of a "vocational picture" for electrotechnicians shows their setting

Vocational Picture of Electrotechnicians

(for practical training)

Time 4 years

The Field of Work for Special Workers

Installation, examination, repair and maintenance of electrical arrangements for light, power and heat

Installation, connection and putting into working order of current producers, transformers, converters and current consumers

Installation and putting into working order of simple telephone arrangements

Skills which the Apprentice has to acquire during the Training

Essential

Filing, chiselling, sawing, scraping Drilling, laying on, grinding, winding, cutting Riveting, bending, simple smith's work, tempering and soldering, all this in connection with main skills of a locksmith Changing and manufacturing of polished and isolated conductors of various metals, of isolation and guarding tubes as well as of isolating materials

Making drawing-copies, preparing and laying out of cables and cable-like conductors and tube-wires, of polished and isolated conductors and isolators, in isolating and guarding tubes for and during cleaning Installation and connection of current producers, converters, exchanges, motors and other current consumers, as well as installation of measuring and controlling apparatus in accordance with the installation and industrial regulations of the Union of German Electrotechnicians and with due consideration to the regulations for prevention of accidents

Measuring of electrical quantities (power), working from wiring diagrams

Desirable

Simple turning and grinding work

The period of training of special vocational workers lasts three or four years in Germany, according to the legal requirements of the Reich trade regulations Side by side with practical training in school or factory workshop, the apprentices receive weekly from six to eight hours' instruction in public vocational schools or vocational schools maintained by firms

The "vocational picture" is the starting-point for further work, i.e. formulation of examination requirements and vocational suitability, and the scheme of vocational education The scheme includes the following parts (a) introduction of the apprentice, (b) educational measures, (c) extent of skills, (d) training in the workshop and (e) examples of time-tables It leads finally to a course as a collection of drawings for a methodical practical training

The authorities of vocational education also start from the "vocational picture" and vocational training scheme in their require-

ments for division of subjects in the plan of vocational instruction. All workers in factories should be divided into three groups: vocational workers, specialist workers and assistant workers. Under specialist workers we understand those who work in narrower or more limited fields than the vocational workers, and under assistant workers, those who are trained for only one, often repetition work. If this division is accepted, then the comparatively great numbers of specialist workers employed in industry shows the necessity for methodical training for this group of adolescents for a period of from 1 to $2\frac{1}{2}$ years, and not, as was usual before, only for adults. The *Datsch*, therefore, has prepared "vocational pictures" of a vocational worker. As an example we give here the "vocational picture" of milling cutters.

Vocational Picture of Milling Cutter (Countersink Drill) for Practical Training

Period of training—2 years, completing at latest at the age of 18 years

The Field of Work of Milling Cutter

Execution of countersinking work according to drawing and completion scheme, including making of machines in so far as the cutting and shaping work does not fall beyond the field of work of a general milling cutter because of the size or value of the material, or because of the difficulty of the work.

Skills to be imparted during Training

Essential

Acquisition of basic skills for working with the most important materials and for the right use and care of instruments and machine engines. Selection and mounting of countersink drills. Spreading and dressing of material with and without apparatus. Installation of the countersink drill for standard production.

Milling from tracing and measurement with checking of tolerances or adjustment to a counterpart.

Work with partial installation.

Testing of drilled parts by standard and surface.

Care of countersink drills, keeping in order of instruments and installations.

Desirable

Work with vertical countersink drills, even when the industrial reasons require the training for horizontal countersink drills and *vice versa*.

In order to classify the workers into the vocational and specialist groups according to a uniform point of view, certain principles were accepted to guide in each particular case, whether the activity of the adult worker belongs to the type of vocational or specialist worker.¹

¹ For full account see the July number (1938) of *Technische Erziehung*, published by B. J. Teubner, Leipzig and Berlin.

Further Differentiation of Training

Up till now we have dealt mainly with the work of the Second Division, a few notes on the activities of other divisions follow.

In the First Division the questions of building up the curricula in vocational and workshop schools are discussed in co-operation with the school authorities and teachers' organisation. Special attention is also devoted to the training and continued education of teachers in vocational schools. Further, the problems of the German vocational school system are especially worked out. These are the conditions of admittance to vocational schools, the conditions of entrance and final examinations. At first they are elaborated on an example which serves as a basis for further work in the field of vocational education in other branches of industry and trade. The sub-committees of the Third Division formulate courses on the basis of "vocational pictures," and schemes of vocational education, especially for those vocations which require drawing material. The course greatly facilitates the actual realisation of training, and enables those concerns, which start the training, to use the experience of other concerns. Within the limits of this activity, a basic course for metal-work vocations was prepared, which offers a common basic training for all related vocations, such as machine locksmiths, instrument makers, mechanics and turners, who, especially in the training workshops, are grouped together during the first period. A further differentiation of training in the courses follows only after six months or a year.

The drawings of the course appear as single sheets in Form A4 (210 by 297 mm), and it is, therefore, possible to select some basic works in accordance with the respective drawings for other vocations where metal work does not play the main rôle.

Further courses are still in preparation. The basic course is accompanied by explanatory sheets, which serve the training in the workshop and give pictorial instruction facilitating the understanding of the use of tools, for instance, about files, and the order of operations about the structure, application and use of measuring instruments, an introduction to soldering and tempering, etc.

All these devices lighten the burden of the teacher considerably and create the necessary connection between the workshop and school. The work of the Fourth Division extends to the establishing and current supervision of exhibitions, which should help to make the activities of the *Datsch* as well known as possible. A permanent exhibition is maintained in the main office of the *Datsch* in Berlin, *Schiffsbauerdamm* 19, and in the local office of the *Datsch* in Dortmund, *Westfalenhaus*. The *Datsch* also endeavours to arrange other public exhibitions concerning industry or handicraft.

ING ADOLF HEILANDT.

CHAPTER TWO

THE HUMANITARIAN SOCIETY, MILAN

THE Humanitarian Society was conceived by Prospero Moise Loria, a wealthy industrialist who devoted a part of his large fortune to the founding of a social institution having as its aim the improvement of the cultural and technical equipment of the working classes, especially those mostly in need of such help. With this intention, on July 24th, 1892, Loria wrote his will in which he laid the foundations of the Humanitarian Society we now know. He formulated the aims of the Society as follows: "Place the most needy in such a position where they will be able to improve themselves," an aim fully comprehensive, but allowing sufficient latitude for progress and for change in accordance with the economic and social conditions of the country as a whole.

This is not the place to recall the beginnings of the Society and how its varied activities were first put into operation. All this belongs to the early history of the Society. Changing times have since brought to an end many of its original undertakings. These, however, may be grouped into three main branches: services connected with labour and assistance, the "Casa di Lavoro" or workhouse, the Society's own employment bureau, legal aid to the poor and to those disabled while in employment, and also mutual health insurance and institutes for emigrants, etc., which have all come to an end, because all these functions of public utility have been taken over by the State. The activities of the Humanitarian Society have been directed since to the spreading of professional and technical instruction in constant harmony with the original aim of the Society, consisting in the gradual elevation of the individual technical, intellectual and moral value of the worker, who has been made, thereby, fully conscious of his own personality in regard to his social duties. Following these aims and ideals the Society founded special professional schools, and started numerous experiments to lead the young working-class men to an appreciation of the beauty and usefulness of work. For many years the Society advocated as a social duty the bringing about of compulsory professional instruction. On looking back, the Society realises that its work in the past, before the birth of the Fascist régime, was by no means in vain.

The First Stage of Development

What was the organisation of the Humanitarian Society's schools in the past, and what is it now?

In 1903, the Society started the first evening schools of drawing and the first workshop for the crafts of ironwork and woodwork. These were followed by electro-technical schools and art schools for

utility purposes (industrial art), schools for tailoring, watchmaking, bookbinding and printing. Several small factories for the production of soap, paint and oil were also established.

As the problem of the apprenticed workers was becoming more and more acute, revealing an insufficiency of technical knowledge, the Society started in 1905, as an experiment, several female day-time schools to prepare girls to become dressmakers, milliners, embroiderers and laundresses. In 1908, several professional day-time schools for males were open, for the teaching of woodwork, ironwork and work in precious metals.

When the council schools opened evening courses for additional training, it became possible through these new courses (*Corsi Popolari*) to prepare boys for future employment by first finding out their natural inclinations, and so, in 1912, drawing classes as well as classes for manual work, and special teachers' courses, were instituted.

Those early attempts to train men for work were given later on a more systematic development by the Government through the law of October 31st, 1923, which is now in operation in our own schools.

The Humanitarian Society also founded schools of domestic economy for the training of housewives, and special classes of decorative art, suitable for ex-service men, etc.

In 1915, owing to the increasing demand for men trained for the mechanical and armament industries, a school for mechanics was created. This was followed by other schools carrying the activities of the Society outside the field of applied arts. Thus were opened new schools of electrical engineering for general workers and for sledge-hammer specialists, as well as a course for aircraft specialists.

The Society also helped indirectly to extend the work of various similar institutions and associations. A new institution was promoted and financed for the further development of schools for workers, instruction and subsidies were given to the council schools for adults, to the provincial evening schools and to a masonry school, as well as to the "School for Little Female Workers," to the "School and Family" institution and to the "Society for the Promotion of Arts and Trades."

Uniting its efforts with the Milan provincial administration, with the County Council and with the Chamber of Commerce, the Humanitarian Society also created a provincial Board for professional teaching in the town and the province of Milan. This was considered so important by the Government that the creation of similar Boards was ordered in all the provinces of Italy.

When the Society was called upon by the Councils of Milan and Monza to join the MILANO-MONZA Board, it helped with advice and with large subsidies the international bi-annual exhibitions of decorative art, and also founded, in the Royal Villa of Monza, a Higher institute for decorative arts, which was directly run by the Society until 1926.

The Second Stage of Development

This, in brief, is a survey of the first stage of the activities of the educational institutes created by the Society. In the second period, which began in 1927 and which is still in full development, all the branches of professional teaching managed by this pious Society are being reorganised in accordance with Government directions. We can also state that the Society has forestalled in many cases these directions by extending its work to the training of men and women in all trades.

The new system has brought about the creation of classes initiating young people into a particular line of work, and also the reorganisation of the apprenticeship courses in the laboratory schools as well as a radical reshaping of finishing courses for skilled workers.

These special courses are intended not only for the education and training of the young, but aim, above all, to developing the individual capabilities of each worker, giving to each an interest in his job and a love of work as such. The social importance of these courses is evident as an essential factor for the success and the happiness of the individual worker, who should always be employed in a task that he likes and which he can do without strain.

To such courses both boys and girls are admitted after the fifth elementary class. They last three years, of which two are devoted to general instruction and to the finding out of individual vocations. One year is devoted to specialisation. The school is already running a laboratory for psychotechnical research of the pupils' personal attitudes, to check the findings of the teachers. To this has been added a biometrical laboratory which enables teachers to acquire a precise knowledge of each pupil both physically and intellectually.

Each pupil, moreover, is closely followed in his development between the twelfth and sixteenth year of age, which is, no doubt, the most important and delicate period of adolescent life. Any anomaly, such as the arrest or the excess of development, is discovered in time and cured. All these researches, conducted by the specialists and by experienced teachers, have given results of great social importance with regard to the moral healing of youths of the poorest classes, and to the ascertainment of the most rational and practical method to initiate them to their working life and to the selection of a suitable career.

The results of studies and experiments which are carried on in these schools may be followed by all interested in such problems.

Reform has also taken place in the classes for skilled workers, to whom cultural, technical, graphical and practical knowledge is imparted to improve their mental equipment. The old evening finishing school of applied arts has been radically reorganised with a new curriculum suggested by the Government, and has been divided as follows: preparatory course, 2 years, professional course, 3 years, special course for artisans, 1 year.

General teaching of a cultural character and special teaching of drawing are given in the preparatory courses, teaching of a technical character prevailing during the three years devoted to specialisation.

To complete this reorganisation, the Humanitarian Society has created a psychotechnical and biometrical laboratory equipped with the most modern instruments. Experienced teachers have also been appointed, giving the school adequate didactical material, revising programmes either graphical, technical, technological or of practical instruction, so that the pupil may choose and use the newest technique and the most modern materials created by science.

The fundamental problem which the Society tried to solve was to make of the school an essential part of the early working life of the pupils, so that they may be ready later to seize any opportunity of serving society, spiritually as well as technically.

We have said that our schools are open to everyone's inspection and study. Annual exhibitions are also held, illustrating the work and the achievements of the schools, especially in the vast field of modern art as applied to the decorative and other industries. The full range of the scholastic institutes managed by the Society is as follows:

(1) Schools to guide and initiate young men to a skilled industrial career in any of the following trades: cabinet makers, blacksmiths, jewellery makers (engravers, embossers, goldsmiths), mechanics, adjusters, turners, small mechanics.

(2) A school to guide, direct and initiate young women to a skilled industrial career in the following trades: dressmaking, lingerie making, millinery and embroidery.

(3) A school of bookbinding and printing, specialising in the setting up by hand of printing types, general printing, lithography and bookbinding.

(4) A male school for apprentices to specialised applied arts.

A school of watch repairing.

A school of handweaving.

And several special female classes.

(5) Evening finishing classes for individual workers.

Special evening advanced classes of bookbinding and printing.

(6) A Sunday school of bookbinding and printing, and female professional holiday courses.

The annual number of pupils attending these various classes is in the region of 2,500. A new larger building is now in the course of construction which will enclose, besides all the present schools, a new art school, an art institute, a Higher institute of arts and finally an institute for the training of art and professional school teachers.

ELIO PALLAZZO

CHAPTER THREE

THE PARTICIPATION OF FREE GROUPS (AND PRIVATE PERSONS) IN TECHNICAL AND VOCATIONAL EDUCATION IN THE NETHERLANDS

Introduction

TECHNICAL and vocational education in the Netherlands has developed almost entirely from private initiative. Most of the vocational schools and all legally subventioned apprenticeship systems and part-time training educational systems have been founded and are still maintained by associations.

During the eighteenth century and the first part of the nineteenth century, young apprentices had to pick up as much practical training as they could get in trades, workshops, etc. After the guilds had disappeared, the personal relation between the employer and his workers and apprentices began to lessen. The increasing technical and industrial development in the later part of the nineteenth century, causing trades and works to grow bigger, further accentuated this process.

These circumstances gave rise to an increasing need for systematic technical and practical school instruction. The real development of trade and other vocational schools began in the last decade of the nineteenth century, at first slowly and then, from 1891 onwards (when the Government for the first time decided to grant subventions to a group of trade schools), at a faster rate.

The first junior technical day schools (*ambachtsschools*) were founded by groups of men of vision and with a keen sense of future needs in this respect. In most cases persons from the higher middle class sought to collaborate with prominent tradesmen, business men, technical men and the like. They joined together to form a committee or an association with the special aim of founding and running a junior technical or trade school.

First of all, funds had to be provided for obtaining building sites for the erection of school workshops and their equipment. There were many considerable donations and legacies by wealthy persons, ranging from Fl 50,000 to Fl 250,000 or more. A typical example of the results of this generosity is the technical college at Dordrecht, which was made possible by donations amounting to over Fl 300,000.

More recently a private institution and certain individuals at Rotterdam guaranteed to contribute an amount of about Fl 170,000 towards the costs of founding a new building for the school of arts and crafts and the technical college in that city.

As there was no previous experience upon which to build (during the sixties and seventies), curricula for technical schools and for courses for practical training had to be created gradually by directors, principals and teachers, according to what was conceived as desir-

able special school practice. Salaries, too, were extremely low. So this group of pioneers had to put up with considerable material and spiritual sacrifices.

Foundation of the First Full-time Day Schools for Boys and Girls

Such was the manner in which the first full-time junior technical or trade school for boys was founded at Amsterdam in 1861 by the *My voor den Werkenden Stand* (Society for the Labourers Class), which formed a special *Afdeeling Ambachtsscholen* (Section Trade schools).

The first private cooking school (day school) for girls was opened at The Hague in 1888. The necessary funds had been collected by several private persons, and the *Maatschappij voor Nijverheid* (Industrial Society), also a private institution, granted an annual subsidy.

Factors leading to Further Development

Further development, mainly through private initiative, has been stimulated by three events. The first was the Decree in 1891, which legalised a conditional subsidisation of technical and vocational schools by the State Government. Later, in 1899, came the appointment of a special State inspector for technical education. The most powerful impetus, however, was given by the introduction of the *Nijverheidsonderwijswet* (Industrial Education Act) on January 1st, 1921. This Act provides for a complete financing of the net costs of technical and vocational schools for boys and girls, technical colleges, schools for arts and crafts, nautical, textile and mining schools, schools for domestic science and housewifery, rural housekeeping schools for social workers, etc., courses and apprenticeships (70 per cent or 75 per cent of the net cost is paid by the State and 30 per cent or 25 per cent by municipalities).

Alongside training at full-time day schools for carpenters, cabinet-makers, blacksmiths, house-painters, etc., there gradually arose institutions for engineers, mechanics and other types of metal-workers, such as electricians, instrument makers, bicycle, motor-bicycle, and motor-car menders, plumbers and fitters, and also for other trades, such as tailors, shoemakers, tanners, upholsterers, typographers, bookbinders, masons or bricklayers, plasterers, textile workers, butchers, bakers, fishers and bargemen, etc.

Meanwhile there was developed all over the country a large number of technical winter evening schools and courses. These were intended to supplement technical and vocational education of apprentices in trades and industry and also for preparing the lower executive staff such as foremen and other non-commissioned officers of industry. The pupils follow courses in technical drawing and sketching and the theory of their trade or branch (separately for different trades), the Dutch language and general knowledge, arithmetic, geometry, physics and mechanics, etc. At several

of these schools there is also some practical training, which whenever possible takes place in the workshops of the day technical schools

Schools were also founded, or adapted from existing types, to prepare for the State examinations for officers of the mercantile marine (mates and naval engineers, etc.) In addition to these, there are at present schools for wireless operators, one of the nautical schools also prepares aviators

The schools for arts and crafts (of which there are nine) have partly sprung from very old private institutions, so-called academies of art and drawing and the like. These schools have developed according to modern trends in plastic and industrial art, architecture and photography

The technical, secondary or middle technical schools or technical colleges developed rapidly in the Netherlands. Some of them are offsprings of old schools. To-day, there are eleven subsidised technical colleges with a four-year course, including a practical year between the second and the last school year

In this system of full-time colleges there are departments of building, civil, mechanical, electrical, shipbuilding, aeronautical, chemical and physical engineering, a department of heating, cooling and sanitary engineering will be founded in 1939. Besides these there are two special technical colleges for textiles and one for mining. The scientific technical education of university standard is concentrated at the State Technical University at Delft

The development of vocational schools for girls was also undertaken by private initiative, and kept pace with that of the junior technical and trade schools for boys

The early cooking schools developed into household or domestic science schools (cooking, knowledge of food and diet, economy, house laundry, children's welfare, etc.) Besides these there are so-called *industrial* schools for girls (needlework, clothes-mending, dressmaking, etc.) A combination of these types of schools is rather frequent. There are still other types, so-called schools for social work by women, those for baby nurses, and training colleges for lady teachers for the different branches of vocational education for girls

A modification of the general household schools has developed in the country for the education of peasant girls and women. These rural housewifery schools and ambulatory housekeeping courses are founded and controlled by agricultural associations

Courses were also founded in preparation for the examinations for teachers' certificates

Training Systems for Apprentices

This kind of systematic practical training in trade workshops is also practised exclusively by private associations, sometimes linked to trades and factories

Many years before the Industrial Education Act was introduced

(1921) certain of the big factories and works (especially in the engine and shipbuilding branches) had already organised such training in their workshops. This was done quite voluntarily to provide for the need of skilled and specialised labour and without any legal compulsion.

The training is conducted by carefully chosen foremen. In most cases apprentices have to attend supplementary theoretical and drawing courses or classes. Some of these training systems were considerably curtailed or abolished in the years of the recent economic depression (1930-7).

A few others, however, such as those in the works of Stoik Brothers Ltd at Hengelo and in the Philips' plants at Eindhoven (incandescent lamps, wireless sets, etc.), have developed into a part-time training of great intensity and perfection. Both these systems are at present subsidised according to the Industrial Education Act.

These serve as examples of what can be achieved in this line of efficient training of highly skilled and qualified workers.

The legally subventioned apprenticeship systems all are in the hands of associations. The number of these systems has recently been augmented.

The Examination of Teachers

In 1893, the private housekeeping schools at Amsterdam, The Hague and Rotterdam mutually agreed to establish an examination for a certificate as a teacher in cooking. Gradually other certificates were established for knowledge of food, economy and house-laundering. After some years the examinations were taken over by the *Bond van Leeraren van het Huishoudonderwijs* (Federation of Teachers of Schools of Domestic Science, etc.).

The costs had to be provided for by contributions of the members of the federation and by asking a fee from the examinees. The examinees were then satisfied with a very small remuneration, over and above their travelling expenses and board and lodging.

After the examinations had existed for several years the State lent a helping hand with a modest subsidy. Since 1916 the certificates have been co-signed by a delegate of the Minister of Education. This assumes a semi-official acknowledgment of the private certificates.

Several other private associations have instituted similar examinations, for example, the *Roomsche Katholieke Schoolraad* (Roman Catholic School Council), the Society of Principles of Industrial Schools for Girls (teaching needlework), the Society *Cornelis Douwes* (teaching seamanship), *Vereniging ter Veredeling van het Ambacht* (Society for Amelioration of Trade) and certificates as "fellow" and "master" of different trades. The examinations for "fellow" and "master" of trade still take place once a year under the superintendence of a delegate of the Education Department.

These private certificates have in their time been of great use in connection with the practical training at vocational schools for girls, trade schools and schools of navigation at a time when legal teacher certificates did not exist.

The Industrial Education Act, which came into force in 1921, provided for State examinations and official certificates for all kinds of teachers for practical, theoretical and drawing instruction in technical and vocational schools.

Since then the private examinations for teachers have been suspended. Those who had to organise the new State examinations and to design the programmes for some forty different official certificates, however, were quick to take advantage of the pioneer work already done by private organisations.

Task and Function of the Managing Boards of Technical and Vocational Schools and Apprentice Systems

In becoming a member of such a board, one assumes voluntarily and disinterestedly an important mandate and a considerable responsibility.

Technical and vocational education in the Netherlands owes much to these men and women. From the start they have to smooth the way for establishing the desired school or institution and to obtain the necessary subsidies from the Government and the local authorities, as well as other contributions. When, at last, the school has been brought about, the boards are permanently held responsible for the general management, both morally and financially. They appoint and discharge principals, teachers and other employees. At the same time, they are held responsible for a regular course of education and instruction and for school matters in general.

A managing board looking at its task in the right way will confine its attention to supervising the school and education on general lines. As a rule, a managing board will not interfere with details of a pedagogical or didactic character, but rather leave these to the principal and his staff.

On account of the social position of the members and their relations to industry, the boards form a natural link between the school on the one hand and real life and the ever-changing needs and requirements of trade and industry on the other.

Further, the managing boards keep in touch with the Ministry of Education and the State inspectors of technical and vocational education. They have, too, to supervise the carrying out of the conditions of subsidies and all other rules dictated by law.

It will thus be seen that all this means an onerous and responsible task for the members of the boards. Technical and vocational education in the Netherlands owes a great deal of its moral prosperity and good results to these boards.

Federations of Managing Boards of Technical and Vocational Schools

Most of the associations which are managing subsidised technical or vocational schools have united into federations. These look after the general concerns of the schools under their care. They are doing this by organising public discussions, meetings, lectures, by articles in periodicals, collaboration with the unions of principals and teachers, and by consulting the Government and other school officials.

They have, too, a special task in creating the so-called Committees of Appeal (see also under "Clauses of the Act," etc.)

These federations are organised, partly according to special types of schools or to education for special professions, and partly according to religion.

These federations are

(i) *Vereeniging van Middelbare Technische Scholen in Nederland* (Federation of Technical Colleges (or Secondary Technical Schools) in the Netherlands). Undenominational. Two of its members are municipalities which maintain a technical college.

(ii) *Bond van Vereenigingen tot het geven van Nijverheidsonderwijs* (Federation of Associations for Industrial Education). Undenominational. This federation comprises a large number of (mostly elementary) professional day and evening schools for boys and girls.

(iii) *Bond van Vereenigingen voor Christelyk Nijverheidsonderwijs* (Federation of Associations for (Protestant) Christian Industrial Education). Orthodox Protestant. This federation comprises a number of schools of the same type as mentioned under (ii), but the members of the board, principals and teachers and most of the pupils, subscribe to the orthodox Protestant creed.

(iv) *Roomsche Katholieke Centraal Bureau voor Onderwijs en Opvoeding* (Roman Catholic Central Education Office). Besides nearly all Roman Catholic vocational schools, it comprises elementary and secondary schools for general education.

(v) *Vereeniging ter bevordering van het Zeevaartonderwijs* (Federation for Nautical Education). Undenominational. There are still some others which are not particularly concerned with school management.

(vi) *Vereeniging tot bevordering van de Vakopleiding* (Society for Propagating Vocational Education). Undenominational. In collaboration with the unions of principals and teachers and with the federations mentioned under (ii) and (iii), this society looks after the concerns of vocational education in general, especially in relation to the needs of practical life, trades and industry.

(vii) *De Nederlandsche Centrale voor de Vakopleiding* (Dutch Centre for Vocational Education). Undenominational. This *Centrale* has been founded as the general organisation, representing vocational education in the Netherlands in relation to the International Bureau for Technical Education at Paris. Delegates of

this Centre, for instance, visit international congresses on technical education. The chief organisations in the domain of vocational education are represented in the *Centrale*

(viii) *Vereeniging ter Veredeling van het Ambacht* (Society for the Melioration of Trade) Undenominational. This society is in particular concerned with technical examinations for fellows and masters in branches of trade and industry (see under private examinations)

Laws regulating Vocational Education

In the beginning of this century it became apparent that there was a need for special regulations regarding vocational education. This resulted in the Industrial Education Act of 1919, which came into force on January 1st, 1921.

At the time this Act was being designed, vocational education, owing to the activities of private associations and of some municipalities, with the aid of a loose system of subsidies, had already reached a considerable expansion.

The scope of subsidies was such that the State Government, under certain conditions, could grant a subsidy amounting to 50 per cent of the yearly net-costs of the school, provided that the local and the provincial authorities would give financial help, too. When subsidising a full-time vocational day school for the first time, the Government usually gave an additional sum of Fl 2,000 as a contribution towards the initial costs of furnishing, equipment, etc. The funds for building new schools before 1921 were obtained by loans, usually provided by the municipalities.

Subsidies were only granted on proof that there was an obvious need for a school, and after making thorough inquiries into the soundness of the scheme and of the managing board.

Conditions for Subsidies

The conditions for subsidising by the State included the following items:

(i) Control of the financial management (the annual estimations of school budgets and the yearly accounts had to be audited and sanctioned by the Minister of Education).

A similar sanction was needed for

(ii) The nominations for appointing principals, teachers and other employees and propositions for dismissing them against their will,

(iii) Curricula, time-tables, salary scales and pensions and the school fees,

(iv) Control of all matters concerning the school buildings.

These conditions, somewhat elaborated, have now been incorporated into a royal decree.

When the Industrial Education Act came into force in January 1921 there already existed 609 technical and vocational schools (day and evening schools), 3 of these were State schools and 56

were owned by municipalities. Consequently, the remaining 550 private schools run by private associations had to be incorporated.

In December 1937, there were in the Netherlands 716 technical and vocational schools subsidised by the State Government and the municipalities, according to the Industrial Education Act. These schools and their pupils and students were divided as follows:

TYPE OF SCHOOL	NUMBER OF	
	SCHOOLS	PUPILS
Technical day schools for boys	94	31,123
Vocational day schools for boys	18	1,408
Special classes in connection with the schools mentioned above		931
Classes for preparatory, secondary and technical instruction, and extended primary technical instruction	314	1,629
Evening industrial and vocational schools for boys		37,403
Higher technical schools (technical colleges), textile schools and mining schools	19	3,447
Schools for arts and crafts		1,834
Training schools for inland navigation		1,204
Training schools for sea fishing	37	539
Nautical schools		914
Schools for naval engineers		1,127
Schools for domestic science, housekeeping, children's welfare, social work, needlework, etc., for girls	235	35,691
Training		22,436
Shorter courses		3,526
Ambulatory rural housekeeping courses		
Total	716	143,202

The clauses of the Act had, of course, to take into account and to acknowledge the state of affairs as they existed at time of passing, including all the institutions already existing. These had shown a steady growth during more than half a century, and in which private initiatives had performed a preponderant function.

So according to this Act the managing committees and (in case of municipal schools) the local authorities were left autonomous but for the legal control by Government (see Conditions of Subventioning).

As one of the consequences of this peculiar state of affairs, the Industrial Education Act was designed to be flexible. A number of minor adjustments have been the subject of royal decrees. If necessary these decrees can be modified to meet new conditions and without the actual intervention of Parliament. This makes the whole of the regulations sufficiently supple, facilitating rapid adaptation to changing circumstances, methods of production and to technical progress.

Clauses of the Act confirming the Importance of Free Groups

Clause 5 divides schools in *private* and *Government* schools. The former are by far the most important group, and are always mentioned first.

Clause 22 provides for principals and teachers of private technical and vocational schools who are dismissed against their will, and ensures the right of appeal to a special committee. These committees of appeal are set up by the managing boards of a definite group of private schools which collaborate for this purpose. The committee comprises five members and five substitutes. Two members and two substitutes are chosen by the managing boards and two others of each group by the principals and the teachers of the schools in question.

Clause 25 regulates finance. The first paragraph of this clause deals with the organisations entitled to be subsidised, private institutions and associations are mentioned first, and then the municipalities. The first condition for eventually subsidising a technical or vocational school is that the municipality declares such a school in their domain to be necessary. Before deciding about this the municipality has to consult the organisations of employers and the trade or labour unions which may be concerned in the proposed school.

A similar proceeding has to be followed in case of adding new branches to a school (Clause 25, paragraph 6).

The second chapter of the Act deals with practical training by a special agreement of apprenticeship in industrial workshops. Here also (Clause 39) private institutions, as being entitled to subsidising for an apprentice system, are mentioned first. Although the Act also provides for the eventual subsidising of municipal apprentice systems, these so far do not exist.

Practical training by means of apprenticeship as a rule takes place in workshops and factories. These, therefore, have to meet definite demands.

Clauses 47, 48 and 50 of the Act prescribe the obligations of employers towards the association in charge of the subsidised apprentice system and towards the apprentices in training. The latter are obliged to attend supplementary theoretical instruction at a technical or vocational school, and the employer has to see that they do so regularly. There is another important regulation in Clause 64. According to this clause the Minister of Education is entitled to consult all kinds of private and other experts in trade, industry, shipping, domestic science, etc., in order to discuss with him, or with the inspector-general of technical and vocational schools, general questions and problems in each of these branches.

As a striking example of such a consultation might be mentioned the reorganisation of the *middelbare technische scholen* (technical colleges) which have twice been subject to deliberation of this kind.

A special committee of thirty experts presided over by the

inspector-general has been undertaking inquiries into this subject. The result of their work was published in 1933 in a report with several appendices. These appendices contained regulations for the admittance to the schools and for the final examinations and drafts for curricula, together with time-tables for the branches of building, civil engineering, mechanical engineering, electro-technical engineering and shipbuilding. (More recently a similar curriculum has been designed for technical chemistry.)

The proposals of this committee have been wholly accepted by the Minister of Education, and in the years 1933-7 have been gradually introduced at all subsidised technical colleges.

It may be added that the managing boards of all these schools (including two municipalities) have joined in the Union of Technical Colleges in the Netherlands. This union has further normalised the entrance examinations, too. Periodical revision of curricula, if necessary, will be considered by mutual consent.

In 1930, a similar committee made copious proposals about the different schools and courses for the education of technical officers for the mercantile marine. Still another committee has done similar work for the training of wireless operators.

To conclude this summary there remains but to mention the so-called *Commissie voor Georganiseerd Overleg voor het Nyeveheidsonderwijs* (Board of Organised Consultation for Technical Vocational Education). This board is to be consulted by the Minister of Education in general questions regarding the legal status of principals and teachers, the regulations for their salaries, half-pay, pensions, etc.

All federations for technical and vocational education, and the unions of principals and teachers, are entitled to appoint a delegate and a substitute delegate to this board.

The inspector-general of technical and vocational education acts as chairman of the board, assisted by one of the State inspectors and one of the State inspectresses. A civil servant acts as secretary.

Conclusion

From the above survey it will be seen that free groups, private associations and individuals have had considerable influence in taking the initiative in the building up and development of elementary and secondary technical and vocational education in the Netherlands, and that they have occupied an important place in its whole structure. Moreover, it is obvious that they will continue to do so by virtue of the Industrial Education Act, and of the decrees and regulations founded on this Act.

G. HOFSTEDT

CHAPTER FOUR

THE UNIVERSITE DU TRAVAIL AT CHARLEROI, BELGIUM

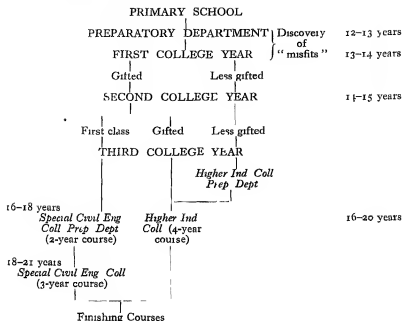
(See also YEAR BOOK OF EDUCATION, 1937, pages 671-83)

Assistance towards selecting a Career

THE Université du Travail at Charleroi was created to be a training centre for all grades of employment in the heavy industries. It turns out recruits for all ranks—skilled hands, foremen, qualified mechanics, management clerks, designers, mathematicians, civil engineers. The organisation of instructional classes in all the different degrees and types of work under one roof makes it possible to study the young recruits to industry from the age of 13 up to 22 or 23, and, in particular, to discover their special aptitude and abilities during the years of adolescence. The system singles out and develops the most talented among them with a very small margin of error.

In its early days, the University set itself to discover ability in the children at the stage of their leaving the primary school and entering the first year of technical secondary education and of directing their studies accordingly. But it soon became clear that this method was unsound, and the policy was changed to one of leaving them to follow their own chosen bent and of concentrating on the discovery of lack of ability. Most of the organisations concerned with determining or directing industrial careers make the same discovery and have to change their policy in the same way. Guidance on the basis of apparent ability at an early age does not work—for one very simple reason: a child's choice of a career is usually determined by strong personal inclination—governed by the influence of his friends or his family—and it is generally in that career, and in that career only, that he will work with real enthusiasm: he feels happy in it and has a natural wish to succeed in it.

Of course, he must be guarded against his own mistakes. Often a child coming into the Technical College is unaware of his own physical disabilities for the work he has chosen. Consequently all new arrivals at the University are examined and put through various tests. If the results are at all doubtful, the inquiries are carried farther by investigations into the child's antecedents or, in special cases, by medical diagnoses. The child's family is then summoned, and the difficulties are explained to them. They are advised to choose a different profession for the child. However, it must be admitted, in all frankness, that this advice is not always followed, and that quite a number of parents simply take the child away from us and send him to another institution, where he carries on with the career we have advised against, much to his own detriment.



The First Two Years of the Course

When a child enters the first year at the Technical College, it is the duty of his teachers to develop his mental gifts. Industry to-day has reached a stage at which it is virtually impossible for a worker to rise in his profession without considerable intellectual ability.

The two first years of the course, while the pupils are 12-13 years or 13-14 years of age, comprise (1) twenty-five periods a week of fifty minutes each, devoted to general education (French, mathematics, geometry, geography, chemistry, history, natural science, industrial hygiene, handwriting, music, design and physical training), and (2) fifteen fifty-minute periods of practical work.

These periods of practical work are not specialised. The young pupils spend six weeks on elementary mill- and foundry-work, six weeks in the forges, six weeks on joinery, and twelve weeks in the machine fitting and tracing rooms and in making miniature models. Further periods are given to draftsmanship and design and to clay modelling.

During these years the pupils have seen and shared the daily life of the workshops and have had opportunities of becoming acquainted with the work in other specialised departments, such as machine-casting, wood-modelling, cabinet-making, tool-making and the fitting and finishing rooms. They have had the chance to learn the conditions of work in the branch they have chosen, and as a result they

sometimes decide to choose a different career from that on which they were bent when they came to the school. But these changes are rare—fewer than 10 per cent of the pupils change. Those who do change are asked why, the reasons for their new choice are investigated and they are advised for or against the change.

These first two years are particularly useful in enabling a preliminary selection to be made of the pupils who are well equipped for the general training courses or for the courses in science or applied science. Those of them whose percentage of marks for their work is 50 or over are allowed, if they so wish, to choose a course of half-time study, that is to say, a course in which the week is divided between three days' work in the shops and three days' theoretical instruction.

The achievements of the other pupils are analysed by a staff committee and reports on them are drawn up. Among those who are less well equipped for the general courses, some will be found to have had insufficient preliminary training, others to be too young, and others to be retarded or backward in their development. They are put back for a further year's study in the preliminary courses. The others of this group should, if the system of selection is properly carried out, be fit to earn their living as skilled hands. They continue their apprenticeship with four and a half days' work a week in the shops and one and a half days in general and technical instruction. Opportunities to perfect their skill will come to them later.

The first-class pupils can, if they wish, follow this same course of apprenticeship. Some of them do, generally those who lack initiative or courage or who wish to improve still further their manual skill.

The one and a half days' general instruction in this part of the course is confined to the following subjects: French, design, general mechanics, general electricity (for the electricity students), factory equipment, woodwork (for the joinery students), sociology and law, industrial hygiene and physical training.

During the second year (ages 14–15) the courses are specialised according to the chosen occupations. The technical lectures and practical instruction provide a solid apprenticeship for all such occupations as hand-fitter, machine-fitter, forge operative, motor-car mechanic, electrician, electrical fitter, joiner, mill- and foundry-hand.

The Third-year Course

At the end of this second year a new selection of the more promising students is made. The best of them—those who get 70 per cent higher in an examination—are offered admittance to a special class where only two days' work a week is done in the shops and the other four days are devoted to classes in technical design and general technology and to higher stages of general academic education. The pupils who succeed in this class can, at the end of a year, take a

certificate of skill in any specialised branch, which gives them at the same time the same educational status as that of secondary school pupils of the middle grade (three years' study)

The examination at this stage is not compulsory, any more than is the transfer to the industrial course after the first examination

Thus the third year is made up of three streams of students

General Apprenticeship

- 4½ days a week in the workshops
- 1½ days of theoretical instruction

Industrial Course

- 3 days in the workshops
- 3 days' general technical instruction

Special Course

- 4 days' general scientific and technical instruction
- 2 days in special workshops

The proportion of students in the above three categories is approximately 35 per cent in general apprenticeship, 55 per cent in the industrial course and 10 per cent in the special course

At the end of this third year a practical examination is held in which technicians and factory foremen act as judges alongside the teaching staff, and on its results a technical education diploma (*diplôme d'enseignement professionnel moyen*) is awarded

Facilities for Study during Working Life

Let us now consider what means the University offers to its students of perfecting their skill by means of self-improvement during their working life

The less-gifted students from the General Apprenticeship section can take up jobs in industry and still continue to attend evening classes for nine hours a week in the specialised subjects of their work. Parallel to these evening classes there is an evening instructional course of seven to eight hours a week in elementary science and industrial design

Moreover, the University has recently instituted for their benefit a "refresher" course of evening classes which enables them, after three years, to enter for courses of instruction of a higher degree

The pupils of the Industrial Course (half-time) are admitted straight away into the Higher Industrial College evening classes (eleven hours a week) provided that during the day they are doing skilled work. The course at this College takes four years: one year of higher mathematics, one year of science, one year of applied science and one year of specialisation. It also has a department of training for executive posts in commercial and industrial houses, banks, transport agencies, export houses, etc. The curriculum of the school is integrated to form a composite course of higher technical instruction, and a large number of its graduates hold posts of responsibility in large industries or managerial positions in smaller concerns.

They are enabled to carry on with their education at the University, even after they have taken their degree (their diploma in engineering, chemistry, electricity, etc.), by means of complementary courses, as, for instance, a course in mathematical analysis which will assist them to make use of the scientific publications bearing on the theory of their particular science. These courses can be of great benefit to those who follow them in broadening the scope of their knowledge. Similarly there are further specialised courses open to them, such as the aeronautics course for engineers, the wireless telegraphy course for electricians or the course of applied mathematics of reinforced concrete for graduates in the School of Public Works. Finally, the law allows a civil engineer to present test papers before a special jury appointed by the State.

The Special Civil Engineering College

The more talented students of the Special Course in the Technical College are admitted to the preparatory department (two years) of the Special Civil Engineering College. Here the classes are held in the daytime and the curriculum comprises the advanced scientific courses in the higher grades of general secondary education.

After the two years the students take the entrance examination to the Special Civil Engineering College, where a course occupies three years and comprises one year of higher mathematics and the exact sciences, one year of applied science and one year of specialisation. Graduates of this College are always to be found in posts of authority or management in the upper ranks of industry or else in command of small-scale industrial enterprises. The complementary courses mentioned above are open to them as well as to the graduates of the Higher Industrial College.

Attendance at those courses instituted by the Provincial Government of Hainaut is free, with the exception of the Special Civil Engineering College. At the Technical College and at the Higher Industrial College the students pay an entrance fee of 10 francs for the whole course of their studies, while attendance at the Special Civil Engineering College and its Preparatory Department is subject to a deposit in advance of 150 Belgian francs, together with 110 francs for admission to the laboratories and classrooms.

The students also have the benefit of a free hostel, which they run themselves and where they pay only for the cost of their bedding and get meals in the mess at cost price. Students at evening classes are served with buffet meals at very low prices.

Social and Economic Importance of the University

In order to appreciate the social and economic importance of an institution such as the Université du Travail, it must be remembered that Charleroi, with only 28,000 inhabitants in its own walls, is at the centre of a dense industrial district of 440,000 inhabitants earning their living directly or indirectly from the local industries.

This industrial conglomeration holds, side by side, collieries, non-works, sawmills, rolling mills, wue-mills, engineering workshops for bridge-building, locomotives and carriages, pumps, presses and all other forms of machinery, electrical workshops for electrical engines, motors, appliances and installations, small metalwork factories, such as nail factories, nut, bolt and screw factories, and chain forges, potteries, chemical works and agricultural produce works—the whole served by a network of roads and railways as intricate as it is impressive.

This catalogue of industries is closely paralleled by the list of special courses taught in the University, and the parallelism shows how closely the University has adapted itself to the economic needs of its neighbourhood.

It is evidently this close adaptation which has made it possible to build up successfully in less than thirty years a university of an entirely new type for which no precedent existed. At the same time the close relations between the University and its neighbourhood have enabled the local industries to keep themselves almost momentarily up to date in the scientific developments affecting their processes. In this respect the University serves industry almost as much as it serves its students. The University Library, containing 42,000 volumes, of which at least 30,000 are technical and scientific works, is consulted continually by the heads of industrial departments as well as by the professors, graduates and students of the university. Incidentally the University Library has the greatest monthly turnover of library transactions of any institute in Belgium—an aggregate of 10,000 consultations a month. The numerous scientific periodicals to which the Library subscribes are dismembered immediately they arrive and their contents are filed in a classified index system. Every week a summary of the interesting articles in them is sent out free to the University professors and the industrial and business houses.

Any industrial concern can ask for a complete documentation of any specialised question within the scope of the Library. A list of all reports in the technical journals for the last twenty-five years is supplied, with an index of the name, date, volume and page of the journal. The research that has to be done by the industry is thus reduced to its minimum. A similar service of economic documentation is also provided. The economic reviews and periodicals, the statistical reports and data supplied by professional organisations, chambers of commerce and Government departments are indexed and classified, and an up-to-date reference service is at the disposal of industrial concerns and University graduates.

The publication of new technical developments in the scientific periodicals is handled by the Director himself on major matters, and by an expert staff for all minor matters. Such publication is often responsible for the organisation of new finishing courses or courses of special study for graduates in the three groups (civil engineers, technicians and skilled hands). In this way the students of the

Universities continue their technical studies throughout almost the whole of their lives

The picture is completed by the sample, trial and registration laboratories, in addition to the practical research laboratories. It can be seen that the closest liaison is maintained between industry and the college. Its effects can be seen on the one hand in the direct influence which industry has had over the formation and curriculum of the University, and on the other hand in the permission which the heads of industries readily grant to experts on their staff to give several hours a week of their time to teaching at the college in their own subjects.

Many elements have contributed to the success of the University of Labour, but they all derive from a close practical application to industrial development and to the unremitting study of economic and scientific phenomena.

J. HIERNAUX

CHAPTER FIVE

THE FEDERAL TECHNICAL COLLEGE AT ZÜRICH

THE Federal Technical College at Zürich (*Eidgenössische Technische Hochschule*) is the only higher educational institution in Switzerland under the control of the Federal Government. All the Swiss universities are Cantonal institutions. Attempts were made to found a Federal university in the first half of the nineteenth century, on the ground that it would in the long run be difficult for the Cantons to keep their universities up to the rising standards of university education. Actually, the complex of regional diversities in Swiss life (in language, religion, etc.) has had the opposite effect in causing the Cantonal universities to be extended to meet more and more regional requirements in higher education. Technical education on the other hand was in a different position. The technical sciences were not represented in the middle of last century in any Swiss college. Moreover, technical science is independent of the regional diversities. Accordingly, on February 7th, 1854, the Federal Council decided on the establishment of the Federal Technical College (FTC).

As a result the FTC was from the very start a centre of the most advanced technical study, being founded solely for that purpose in contrast to the numerous institutions in other countries which developed as university centres of technical education out of industrial schools.

Organisation of the College

The FTC to-day comprises eleven special schools. They are

- Section A architecture, constructional engineering, machine engineering and electrical engineering, in all, about 950 students
- Section B chemistry and pharmacy, about 350 students
- Section C forestry, agriculture, land engineering and surveying, about 250 students
- Section D mathematics, physics and the natural sciences, about 150 students, including those preparing for the higher teaching faculty

In consequence of the smallness of Switzerland it was evident that the teaching of soil culture (forestry, agriculture and the science of cultivation) had to be incorporated in the FTC. Furthermore, in addition to the eleven special schools, the FTC includes a section for military science and also a general section for "free-lance" students which has one division for philosophy and social science (literature, languages, philosophy, historical and

political science) and one for mathematical and scientific technology. The purpose of this general section is to provide a framework of general education in the F T C curriculum which shall obviate the development of a too one-sidedly technical attitude of mind on the part of the students. The hours 5-7 p.m. each day are set aside for this general work.

For a regular whole-time schedule of study a course at the College is 7-8½ terms.

Students are admitted for their first term without an entrance examination if they hold a Swiss Certificate of Matriculation or some other title of equal value. For all other candidates, whatever their previous education, the F T C holds entrance examinations in both general and specialised subjects similar to those given in the matriculation papers. This entrance examination is intended to prove that a candidate is capable of successful study and eventually of sitting for his diploma examinations. Students from Swiss secondary technical schools (*Mittelschulen*) can be admitted after passing a shorter version of the entrance examination designed to test their general education.

It is also possible for young people who want further education in their professional work to be admitted as "lecture-goers". For this purpose they have only to show that they have had some previous specialised education. Admission to the General Section as a "free-lance lecture-goer" is entirely free.

A diploma in architecture, constructional engineering, etc., is awarded by the F T C after the passing of three stages of examinations. Before the final diploma examination a year's practical work is considered desirable and for certain subjects is compulsory. The holder of a diploma or an equivalent title—preferably after he has done some years of practical or scientific work—can proceed to a Doctor's Degree in either technical science, natural science or mathematics. The achievement of a doctorate requires on an average four further terms of study. About 5 per cent of the students in the engineering section achieve a doctorate, while almost all the students in the chemistry section conclude their studies with this degree.

The teaching faculty of the F T C comprises about 70 ordinary and 10 extraordinary staff professors. Some 25 practising specialists are given teaching assignments, and about 50 private tutors and 100 assistants are employed as well.

At the head of each section is a board. The Rector of the F T C is elected for two years from among the members of the teaching faculty and can be elected for a further period of office. The Swiss School Council—whose President has permanent tenure of his office—directs the F T C as the agent of the Federal Council. The President of the School Council is particularly concerned in the elections of professors.

College fees amount to 300 Swiss francs a year (about 14 guineas at present rates), together with certain insurance, library and

laboratory fees. The F T C to-day has 1,700 students, as well as 900 lecture-goers. In the days before the present economic and currency difficulties, the number of students rose to 2,500, and at times the proportion of foreign students exceeded that of Swiss students. Nowadays the Directors of the College aim at maintaining an equilibrium between the supply and the demand for engineers. The College has always aimed at being an international study centre, since it is particularly advantageous for the technical student during his college days to get to know other nations' ways of thinking. There is complete equality at the College between Swiss and foreign students.

The Federal Law of 1854 founding the College prescribed that the studies were to be theoretical and as far as possible practical. The F T C to-day aims in the first place at imparting the fundamental scientific concepts which can only be taught integrally and systematically by a college. These basic sciences (mathematics, mechanics, physics, chemistry, geology, botany, etc.) generally occupy the first four terms. Afterwards comes the demonstration of the applied sciences (e.g. architecture, hydraulics, bridge-building, motors and machinery, surveying, agriculture and forestry) so far as they are developed in the modern world. At this stage experimental work plays an important part, and great importance is attached to close contact between teachers and students in the workshops, in laboratories and in field-work. The basic scientific principles learnt during the first four terms enable the young engineer to apply the knowledge of practical methods acquired during these higher terms to new technical problems when they crop up in his later work. In this respect it is essential to instil a creative spirit in the student so that he has the power and the will to adapt his knowledge to practical problems. To this end the F T C has in the last twenty years considerably extended its technical laboratories and research institutes.

Switzerland to-day is an industrial state. This is really an economic puzzle, for there is no other country so unfavourably placed for industrial production. In the first place Switzerland has no natural advantages except its water power and its timber. Furthermore, it consumes only a small part of its industrial products. In addition, the standard of living of the workers is high. Consequently Swiss products can only hold their own in world markets by their quality. Swiss industry is "condemned" to high-quality production. It has been able to hold its own because of the excellent technical education of the Swiss people.

The same conditions have made it necessary that Switzerland should pay full attention to scientific research and should take full advantage of any progress in the exploitation of natural resources. For this reason the F T C devotes itself almost as much to scientific research as to technical instruction. Most of the larger nations maintain special institutions to promote scientific research—for instance, Great Britain has its Department of Industrial and

Scientific Research In little Switzerland it is more economical that the work should be taken over by the universities

We also hold it desirable that a university professor should at the same time be a research worker. It makes it easier for him to impart to his students the creative spirit which is indispensable for success in the modern economic struggle. In the last ten years the Federal authorities have put some 18,000,000 francs at the disposal of the F T C, in addition to the normal annual budget, for the expansion of experimental laboratories and research institutes. During this time the following institutions have been erected or extended

- Experimental institute for hydraulics,
- High-tension laboratory,
- Institute for technical physics, with a section for industrial research,
- Acoustic laboratory,
- Machine laboratory, with new sections for light engines, textile machinery and aerodynamics,
- Factory science institute,
- Study commission for aviation,
- Building centre laboratory,
- Town-planning laboratory,
- Advisory department for water purification and sewerage,
- Low-current institute,
- Electric power station,
- Photogrammetrical institute,
- Forestry lecture rooms,
- Plant pathology greenhouses,

together with an agricultural estate

The F T C makes it its first concern to promote the study of scientific technology. Scientific technology differs markedly from technological study in the usual sense of the word. It pursues in a disinterested manner aims whose ethical and social significance can be compared with those of classical humanism. Ordinary technological study is generally subordinate to industrial or political interests, whereas scientific research works in disinterested independence towards a greater utility derived from a greater comprehension of natural laws. Scientific technology in this way studies the problems which bear on man's conditions in life, and it can therefore be said to practise scientific humanism.

It would be a great advantage if, in the future, the education of our leaders could comprise not simply classical humanism or science, but a combination of both—a combination which would remove that animosity which as the result of mutual ignorance so often fires humanists and scientists against each other.

Many talented students of small means are excused payment of college fees by the F T C. Scholarships are granted from two funds. In 1930, a new fund was established for the special purpose

of assisting outstanding students of the F T C , with a view to ensuring a supply of scientists to take up what is called "the academic career" There is also a fund endowed by industry which enables numerous graduates of the college to be employed in scientific work

Since the recent economic crisis a "Practising Students' Service" has been introduced, by which talented graduates of the college are given assignments of at least nine months to work with one of the professors on special scientific studies at a salary of at least 200 francs a month This ensures a supply of specially trained men for industrial research

In 1930, a students' hostel was erected in Zurich with the object of cheapening the living expenses of students Some 800 evening and midday meals are served there daily A student taking three meals daily pays 3 francs The use of the hostel is entirely voluntary

Relation to the Swiss Industry and Professions

The F T C is conscious that it has principally to serve Swiss industry and agriculture Consequently its relations with big industrial and commercial organisations are very close and of mutual advantage to both sides From the F T C come most of the leading executives of our big firms, as well as its own professors and the teachers in agricultural secondary schools and often those in technical secondary schools

Most of the extensions of the F T C 's activities have been carried out at the request of industry, and industry has often contributed gifts of funds for these activities The F T C disposes of funds for assisting the scientific work of its students or its ex-students or for promoting other activities of benefit to industry to a total of some ten million francs

Swiss industry has also assisted financially in the construction of numerous research institutes, in the foundation of the students' hostel, and in the creation of various bodies such as that for the promotion of research in technical physics which contributes 230,000 francs a year to the appropriate departments of the college

In contrast to other countries, the F T C does not maintain close relations with the Swiss technical secondary schools or with Swiss technical education in general These branches of education in Switzerland are carried on more or less independently of each other, and the principle has been markedly free from difficulties. The F T C is admittedly concerned to make the path of study easy for every young man of ability by means of its examinations, its system of lecture-goes, its social organisations and the General Sections of its course But at the same time it puts the emphasis primarily on the maintenance of a high level of scientific work, and it is probable that its independence of other industrial organisations has made it easier to maintain this high standard

A ROHN

CHAPTER SIX

Technical Education in Canada

(See YEAR BOOK, 1932, pages 662-84, 1933, pages 440-61, 519-31, 1934, pages 87-90, 281-93, 547-606, 1935, pages 46-59, 252-9, 1936, pages 601-18, 1937, pages 170-85, 294-307, 1938, pages 154-71)

A GENERAL SURVEY

Definition of Technical Education

TECHNICAL education in Canada may be regarded as having passed through three periods since the beginning of the century the time up to 1919, when the Dominion Parliament passed an Act which granted subsidies to the provinces for promoting this branch of education, the following decade during which the Act was in force, and the succeeding years up to the present. The middle era was the one in which the main development took place, and most of the ground gained in that period has been held with extended activities in recent years in some places and in some areas.

Technical education was the term used to distinguish organised efforts to give technical instruction for the preparation of people for skill and usefulness in gainful occupations other than agriculture. Industrial education and vocational education were also rather loosely used, sometimes as synonyms and sometimes as specifying some distinct type of instruction which was being differentiated from the general inclusive term of technical. In the Dominion Act for the Promotion of Technical Education (9-10 George V, Chap. 73) which was passed in 1919 the following definition appears:

"Technical Education means and includes any form of vocational, technical or industrial education or instruction to aid in promoting industry and the mechanical trades and to increase the earning capacity, efficiency and productive power of those employed therein."

At the present time the adjective, "vocational," seems to be in more common use to designate this field of secondary education and usually includes commercial but not agricultural training.

Early Beginnings .

At the turn of the twentieth century there were few facilities in the Dominion for young people to acquire technical training for the

trades and occupations. Most of the provinces had instituted courses in manual training and domestic science which were properly evaluated by educators as means of cultural development, but widely regarded by the populace as the basis of industrial training. Canada was developing rapidly into a manufacturing country, and there was a growing awareness on the parts of both labour and employers that education should be widened to give instruction in the public schools and in continuation courses to enable the workers to become more skilled and efficient in their occupations. The Council of Arts and Manufactures in Quebec maintained a system of evening technical classes in that province in a dozen of the principal industrial centres. This Council was incorporated in 1872 and consisted of seventeen members appointed by the Lieutenant-Governor, together with the Commissioner of Agriculture and Colonisation, the Provincial Secretary and the Superintendent of Education as ex-officio members. The main emphasis was laid on the various forms of drawing that were used in industry, but instruction was also offered in carpentry, joinery, stair-building, sewing and millinery. The classes were planned to meet the needs of workers of both sexes and were free. The financial support of the effort consisted of an annual grant of \$16,000 from the provincial government.

The Province of Nova Scotia had maintained a series of evening coal-mining and engineering schools in its colliery towns ever since 1884. These were modelled after similar institutions in England. They offered educational opportunities to miners and power-plant mechanics to secure such knowledge as would enable them to pass Government examinations for certificates of competency for supervisory positions in and about the coal mines. The classes had been responsible for the fact that the native-born workers had been able to qualify for and fill practically every position of responsibility around the collieries.

The city of Toronto organised evening technical classes in 1891 in old Wychiffe Hall. These grew so rapidly that a new building was purchased in 1900 and day classes were added. This institution was placed under the control of the Board of Education in 1904 and carried on as the Toronto Technical High School. It rendered valuable service to the ambitious youths and workers seeking opportunities in vocational instruction until the opening of the magnificent Central Technical School in 1915.

In 1904, the Universities of Dalhousie and King's College in Nova Scotia started a series of extension classes in two of the industrial centres, offering continuation instruction in technical subjects to students who had left school and were following various occupations. As soon as they had demonstrated the need by the ready response of pupils, they besought the Province to assume the responsibility and to establish a comprehensive system of technical education. In April, 1907, the Government passed "An Act Relating to Technical Education (Statutes of Nova Scotia, 7

Edward VII, Chap 1)" which provided for a whole range of activities that covered the needs in technical education from evening classes in all towns and cities up to a central technical college of university grade which would offer engineering training and conduct industrial and scientific research. A programme to put these provisions into effect was started at once and has been maintained and enlarged from year to year.

In March, 1907, the Province of Quebec passed an Act providing for a series of secondary technical schools in the principal cities. These offered instruction of a technical nature in both day and evening classes. The first one to be incorporated was that of Montreal, followed by that of Quebec in 1910. Buildings and equipment on a magnificent scale were provided, and both these schools opened their doors in 1911.

Agitation quickened and grew at an astonishing pace during the years from 1905 to 1910. Both capital and labour became keenly aware of the great need of facilities for technical training for all workers as Canada rapidly advanced in its development of manufactures. Skilled workmen were immigrating in large numbers, from Great Britain especially, but the native population had little chance to acquire the necessary knowledge in applied science which increasing technology demanded in nearly every occupation. The Federal and provincial governments were besegged to take definite action in this important extension of education.

In August, 1909, Dr. John Seath, Superintendent of Education for Ontario, was instructed by the government of that province to instigate an inquiry into the methods of technical education prevailing in the United States and Europe and to report upon a desirable system for Ontario. His findings and recommendations were published in 1911 under the title of "Education for Industrial Purposes" and formed the basis of action for the splendid system of vocational education which has been developed there in the succeeding years.

Recommendations of the 1910 Commission

On June 1st, 1910, the Dominion Government appointed a Royal Commission on Industrial Training and Technical Education. This was instructed to investigate the needs and existing provisions in Canada, and the systems and methods of technical instruction obtaining in other countries. This body travelled widely and assembled first-hand information on the subject throughout the Dominion as well as in the United States and Europe. It made its report in 1913, and the four volumes constitute probably the best treatise on technical education in the English language written up to that time.

The Commission found that Canada was sadly behind the times in industrial training and vocational education and recommended

that subsidies from the Federal treasury should be made available to the provinces to promote and establish a wide variety of technical instruction throughout the Dominion. The reasons given included the broadest human advantages to be gained by the workers as well as the increased efficiency to them and to industry. This is succinctly stated in its "Statement of Aims"¹

"The aims of industrial training and technical education are arranged here in an order of importance for the guidance of those who plan the courses and kinds of work to be done

" 1 The preservation of health and the vigour of life

" 2 The formation of good habits

" 3 The development of the sense of responsibility and duty

" 4 The preparation of the body, mind and spirit for following some useful occupation

" 5 The cultivation of the mental powers, the acquisition of knowledge, and the development of the scientific spirit with direct reference to the occupation

" 6 The promotion of goodwill and desire and ability to co-operate with others

" 7 The maintenance of standards and ideals

" 8 As all-inclusive and ultimate, the perfecting of the human spirit, the improvement of the quality of life itself and the betterment of the conditions of labour, leisure and living"

As material assistance towards the financial support of such a programme the Commission recommended that the sum of \$3,000,000 be provided annually by the Dominion for a period of ten years. It was suggested that not less than 75 per cent of this be divided among the nine provinces in proportion to the population in each as determined by the last census. In order that each should get its full share, it was planned that if any portion of the sum allotted was not expended or earned within one fiscal year, the balance should be carried forward to the credit of that province for use in the future. It was contemplated that there would be a great variation in the needs of the different portions of the Dominion and developments in the systems of technical instruction accordingly. Since the control of education reposed in the provinces themselves, it was contemplated that a general policy would be adopted whereby each could qualify for subsidies if money was spent for services in a certain range of technical instruction, and the only exercise of Federal authority would be in the nature of an audit of the expenditures to see that they were made for the agreed purposes.

The report was received with acclamation by industrial workers and employers, but the political party in control of the Government to which it was submitted was the opponent of the one that had undertaken the inquiry, so that no immediate parliamentary action was taken. In the following year the country was involved in the Great War, and all matters that did not clearly lead to military efficiency were cast aside until after victory was assured.

¹ Report, Royal Comm. on Ind. Train. and Tech. Educ., Ottawa, 1913, p. 19

Early Efforts of the Separate Provinces

In the meantime, however, some of the provinces proceeded on their own initiative to lay the foundations of effective systems of secondary technical education.

Nova Scotia exerted its main efforts in extending the establishment of evening technical and coal-mining schools and enlarging the scope of the subjects offered. After a few years, facilities of this kind had been organised in every industrial city or town of importance and in every coal-mining community. Classes were formed for both men and women in practically every technical subject related to daily occupations for which any group of ten students requested instruction.

Quebec generously supported the two fine technical schools in Montreal and Quebec, and prepared to erect others of the same type in additional industrial centres when surveys indicated that there was a public demand for them and the expense was justified. It also established a fine school for higher commercial studies in Montreal. The Council of Arts and Manufactures continued its activities in carrying on evening technical classes in all important centres and had the satisfaction of seeing its work meet an ever-increasing response and appreciation.

The Protestant School Board of Montreal provided special instruction in both day and evening classes at the Commercial and Technical High School. This supplied facilities for the most part to the English-speaking people of the city. Shawinigan Falls, which was an important industrial centre of the paper, power, chemical and textile companies, founded a technical institute in 1911 to train young people towards competency for a wide range of skilled occupations, and workers for greater skill and understanding in their trades. Its inception was due in large measure to the initiative and financial contributions of the president of the Shawinigan Water and Power Company.

In Ontario, the city of Hamilton erected an Industrial, Technical and Art School in 1909. This provided both day and evening classes in a wide range of technical subjects and in commercial and fine art for both young men and women. In Sudbury and Haileybury, which are centres of metal-mining production, the high schools opened technical departments which offered regular four-year courses on the same level as that of the academic curriculum, and short courses in practical mining subjects. In Sault Ste Marie the high school arranged special part-time instruction in co-operative day classes for apprentices from the Algoma Iron Works.

In 1911, the Ontario Legislature passed "The Industrial Education Act," which provided for the establishment and maintenance of industrial, technical and art schools whether the courses were set up for instruction of day or evening classes. Generous grants from the provincial treasury were authorised to the

municipalities in which such schools should be organised. A wise provision was made in securing the counsel and co-operation of the people whom the new kind of instruction was intended to benefit by placing the new educational extension in each place under the ægis of an Advisory Industrial Committee composed of six members of the regular school board, together with three representatives each of labour and employers. An exact knowledge of how the schools should be planned and conducted to meet the needs of workmen and industry was thus secured. From this time the technical education movement gathered headway in the Province.

In the city of Winnipeg, Manitoba, two new technical high schools were opened in 1911 which provided three-year courses for boys and girls on the secondary level to prepare themselves for entrance into the occupations which were common in the dominant industries of the city. Evening technical classes were also organised for those who had left school.

Most of the interests of the four western provinces in the first and second decades of this century were concentrated in agriculture. Manufacturing had not developed to any great extent, so that industrial education was not a pressing problem. Vancouver grew rapidly as a great shipping port, and had a considerable number of factories and engineering establishments. It organised evening technical classes on a fairly large basis and offered a wide range of commercial and technical subjects.

Progress during the Period 1910-19

The story of the development of technical education in the public school system from 1910 to 1919 was one of uneven and halting progress. The whole populace had not accepted the idea at first with any great enthusiasm, except in some sections in the most highly industrialised centres. The problems of determining the nature and content of the instruction to meet the needs of industries and their workers were new, and there were practically no trained teachers for the proposed subjects. The personnel of the established school systems were steeped in academic tradition, and while the members showed no active enmity to the innovations, they gave them little support or encouragement. Obstacles were slowly overcome, however, public approval was solidly enlisted, and technical education firmly established in this decade as a welcome and valuable extension of the public school system.

Some Effects of the Great War

It was due mostly to the intense concentration of the whole people on the prosecution of its part in the Great War that no consideration was given to a national policy of promoting technical education in the separate provinces. It was one activity developed in the struggle itself, however, which was probably responsible for demonstrating the value of industrial training to the nation in a striking and convincing manner. This was the splendid effort

carried out by the Government in the re-education and civil re-establishment of the soldiers who had been disabled by wounds or service so that they could not carry on efficiently in their former occupations

It was not until the War had been waged for over a year that the wounded men who were of no further value to the army began to return to Canada in considerable numbers. France and England had organised efforts to salvage as many such men as possible for civilian life by training those who could not return to their former occupations for new vocations which lay within their remaining powers. Information about the striking results obtained became known in Canada, and steps were taken immediately to apply similar methods in this country. This was done on a wise and generous basis.

While the men were still recuperating in convalescent hospitals they were given the opportunity to study commercial and technical subjects in classes provided right in the institutions. Occupational therapy was developed and applied in every way that would help to restore the patients to normality in body and mind. Before the soldier was discharged, each case was carefully reviewed, and a decision made as to whether or not he was able to carry on his former occupation. If not, he was carefully counselled as to what ones he could follow in order to make a living and was given his choice of the trade for which he could be trained.

He was then handed over to the vocational branch of the Federal Department of Civil Re-establishment for re-education. The average period of training was eight months, during which he and his dependants received generous maintenance allowances. All manners of methods were used to accomplish the desired results. Training was carried on in schools, business colleges, apprenticeship, special centres, part-time employment and other ways to suit the widely variant cases. The commonest practice was to give the man technical instruction in the schools maintained by the Department for four to six months and then place him on the job in industry for two to four months more. This enabled him to pick up enough skill and competency so that he could be absorbed as an employee at the end of his training period. Industry was in desperate need of workers, so that employment conditions were unusually favourable for the worker.

The vocational training was intensive, practical and usually effective. Thousands of disabled soldiers who would have been hopeless wrecks if they had fought in former wars were given the ability to maintain themselves in gainful occupations which were suited to their impaired physical powers. The training programme was carried out from one end of the country to the other, and everybody became aware of the value of technical education applied to a variety of difficult cases. It was apparent that it would be of great benefit if it were generally available to workers of all kinds under normal conditions of peace. When the War ended the whole people were alive to the need of vocational education.

The Technical Education Act, 1919

On July 7th, 1919, the Dominion Parliament passed "An Act for the Promotion of Technical Education in Canada," which authorised grants-in-aid from the Federal treasury to the provinces for the specified purpose. A fund aggregating \$10,000,000 was created to be given out in the succeeding ten years. It was anticipated that smaller sums would be needed at the first, but, with the expansion of programmes, the provinces would need more as the work progressed. Accordingly, \$700,000 was set aside for the first year, and the sum increased by \$100,000 per annum for five years, and then fixed at \$1,100,000 for the last five years. It was available to each of the provinces on the basis of a fixed amount of \$10,000 each year and then its proportion of the remainder according to its population at the last census. In order to secure the subsidy the province had to make an expenditure of one dollar for technical education for every dollar received from the central authority. If all of the amount allotted to a province was not earned in any one fiscal year, the balance was carried forward and added to the grant for the next year. The administration of the Act was placed with the Department of Labour and each province had to make a contract with the Minister and renew it each year. Rather unfairly to those provinces which had already developed fairly wide programmes of technical education, it was stipulated that none of the grants could be applied to any liability or expenditure for lands, buildings or equipment that had been incurred before the date of the Act. It was further stated that not more than 25 per cent of the grants could be applied for acquiring lands, buildings, furnishings or equipment. No central control over the funds passed on to the provinces was exercised by the Dominion Government other than that of audit to make sure that the expenditures had been properly made for the general purposes specified in the Act.

Technical education was defined as outlined at the beginning of this chapter. It was restricted to organised industry, business and personal service occupations, but excluded agriculture. The reason for this was that the Federal Government was at this time giving subsidies to the provinces for training people for agriculture under "The Agricultural Instruction Act," which was assented to in 1912, and had three more years to run after the one for technical education started. Although each of these Acts had been limited in operation to a ten-year period, it was generally believed that they served such good purposes that they would be extended upon expiration.

Conditions for Granting of Provincial Subsidies

In the standard contracts made with the nine provinces there were important specifications beyond the stipulations of the Technical Education Act, which had to be adhered to if subsidies were

to be received. It was agreed that courses of college grade should be excluded, and that persons below 14 years of age should not be admitted for training. No consideration was to be given to any payment by a province to the support of any religious or privately owned institution, or to expenditures for instruction in agriculture. The expenses of the training of vocational teachers were accepted as legitimate, and it was agreed that each province should proceed to provide such training. While the Dominion Government disclaimed any right of directive control over any provincial programme of technical education in any particular, it reserved the right for its representative to inspect any part of the work or the accommodation and equipment provided, and to withhold part of the grant if these did not satisfy the inspector as being satisfactory and adequate. The Department of Labour appointed Professor L. W. Gill, who had occupied the chair of Electrical Engineering at Queen's University, Kingston, Ontario, and later was vice-principal of the Khaki University overseas, as its Director of Technical Education.

Some Effects of the Federal Subsidies

Under the stimulus of the Federal subsidies the provinces all started in earnest to institute or to complete programmes of technical education which would adequately meet the needs of its youth, industries and employed workers. The next ten years saw a tremendous expansion of all kinds of vocational training in day schools and evening schools. Huge new buildings were erected, magnificently equipped laboratories and shops were provided, and thousands of people, young, middle-aged and old, surged into the classes to avail themselves of the new opportunities for practical education. Provinces passed legislation providing more generous grants to municipalities for this form of education than had been granted heretofore for any other kind. The principal burden of expansion and maintenance fell always on the individual communities, because the grants-in-aid were paid directly from the Federal Government to the separate provinces.

The New Types of Training

Most of the new types of training were provided for in two kinds of schools, the day vocational school and the evening technical school. The former was on the high school level and provided instruction for boys and girls of 14 years of age and over who had completed all or nearly all of the work of the first eight or nine grades. Usually there were three separate departments—industrial, commercial and household economics. In some instances a fourth department of fine and applied art was included. There were wide variants of this set-up according to the size of the town or city, its wealth and the extent and kind of its dominant business and industrial enterprises. In some smaller places there was a

composite high school containing the facilities for the traditional secondary academic training together with one or more of the vocational departments. In some large cities there were erected more than one vocational school with separate institutions for commerce and art. In general, the new schools were built in fireproof construction and were splendidly equipped with the most modern furnishings, apparatus and machinery.

The common aim was to continue the general education of the young persons, and to give them scientific and shop training in one of a group of common occupations which each youth elected according to his ability, interest and opportunity for subsequent employment. No attempt was made to carry them to the point of the full competency and skill of a journeyman in a trade, but to give them a basis of occupational understanding and proficiency in typical jobs so that they could be immediately useful in the place where they secured employment. The courses were planned so that about half the time was spent in general or cultural subjects such as English, history, economics, mathematics and science, and the other half in the laboratory, shop and drafting room learning the practical part of an occupation. Physical exercise and hygiene were emphasised throughout for every pupil. Courses were provided to suit the interests, abilities and economic exigencies of different classes of pupils. There were commonly offered courses of two, three or four years in length. Each was complete in itself, in order to induce the student who left the public school system at the end of Grade VIII or IX to continue his education for two or more additional years.

The Commercial Departments

The commercial departments usually trained young people in book-keeping, stenography, typewriting, mathematics and business practice. In the larger schools training was given in the operation of business machines, accountancy and advanced work. Household economics prepared girls for proficiency in all home activities such as cooking, sewing, interior decoration, home nursing, etc., and often they were given instruction to fit them to enter professional training as nurses, dietitians, laboratory technicians, etc. In most places the industrial section confined itself to a narrow group of occupations such as the building, engineering, automotive repair and painting trades. These were common in almost every community and required an appreciable amount of general or technical knowledge for full competency. The equipment and accommodation were costly, and it was manifestly impossible to give instruction for the wide range of trades that are found in every town and city of a size where a vocational school might be justified. In the largest centres the programme was correspondingly wider and more diversified, but there is still room for just criticism that the day courses train too many people for a very few occupations and neglect to provide facilities for preparing young people to enter the great majority of

gainful vocations. The opportunities for instruction in fine and applied art exist in only a comparatively small number of cities in Canada, but the need is being more keenly appreciated all the time and new centres are being equipped for this purpose.

The Evening Technical Schools

The evening technical school, just as in other countries, is the institution which serves the greatest number of students and is so flexible in its programme that it can give instruction in almost any subject related to the occupations where a group of ten or more persons desire to pursue the instruction. Teachers may be recruited from the ranks of those who are employed in the daytime and may be secured for any class that it seems desirable to organise. With the expansion of the technical education programme throughout Canada, evening technical schools were established in almost every community of any size. The courses covered an extraordinarily wide range of subjects, running from preparatory classes in English for persons of foreign birth to applied mechanics, analytical chemistry, surveying and instruction in various trade skills. Most of the day vocational schools were used for evening classes, and the latter were established in small places where they enrolled as few as ten or twenty students.

Some educational authorities had regarded the evening technical school as a makeshift sort of institution which was attended by persons who found their education defective after they had left school to go to work, and who attended these classes to remedy their shortcomings. It was anticipated that the wide establishment of day vocational schools would make evening classes unnecessary. The results have been just the opposite. The registration in both has grown simultaneously. These schools provide splendid opportunities for those who are ambitious to progress continuously in their occupations, for those who find they must keep on studying to keep abreast of changing technology and for those who for various reasons desire to change the field of their working activities. It is believed that they will continue to serve great numbers of workers, no matter how far the programme of technical education will be developed in other directions.

B SURVEY OF TECHNICAL EDUCATION BY PROVINCES

A brief summary of the developments in each of the provinces with the help of the Federal subsidies will serve to show the diversity of the efforts which have been made to provide adequate facilities in technical education.

The Province of Nova Scotia

The principal efforts were confined to extending the facilities of evening technical schools and enlarging the scope of their work. The Province has been suffering for years from special economic

handicaps brought about by the national policy of protective tariffs and the centralisation of industry and finance in Quebec and Ontario. This has prevented Nova Scotia from selling and buying freely in the world market for which she is suited by the nature of her resources and geographical position, and has depressed her economic activities until her wealth *per capita* is the lowest in the Dominion. The need for day vocational schools has been clearly recognised during the years when they were being erected elsewhere, but none of the towns or cities has been able to incur the required capital outlay and maintenance costs for such an institution.

Correspondence-study instruction has been steadily expanded until the offering exceeds 100 separate courses. The whole public school curriculum is made available through home-study courses and is supplied free of charge to pupils who live in remote sections where there is no school.

Short courses for industrial workers are given in day classes for the first three months of each calendar year when business activity is at a comparatively low ebb. These cover eleven different subjects and are designed to meet the needs of journcymen workers who wish advanced technical knowledge so that they may push forward to more skilled and responsible positions.

Day vocational classes in woodworking and automobile repair have been formed for delinquent boys in a provincial institution and for delinquent girls in housekeeping in an endowed home.

The Technical College in Halifax gives technical instruction in day classes to groups of apprentices in engineering and building trades. The students are allowed to attend the college for two half-days per week without any deductions of pay. In 1937, the Province passed an apprenticeship Act and the Director of Technical Education was appointed as chairman of the apprenticeship committee. There will probably be a rapid extension of vocational training with a modern apprenticeship system in designated trades.

A separate school of art in Halifax supplies instruction in fine and applied art. Its principal effort is directed towards preparing boys and girls with talent for the various occupations in business and industry where artistic ability and knowledge are necessary for competency.

The following tabulation shows the distribution of enrolment in the various types of schools according to reports for the year 1936-7.

DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	ENROLMENT			
	ART	HOUSEHOLD ECONOMICS	INDUSTRIAL	TOTAL
2	98	106	64	268

EVENING TECHNICAL SCHOOLS

NO OF SCHOOLS	ENROLMENT					TOTAL
	ART	GENERAL	COMMERCIAL	INDUSTRIAL	HOUSEHOLD ECONOMICS	
27	37	487	522	1,374	762	3,182

Correspondence-study Students, 701

The Province of New Brunswick

New Brunswick started, in May 1919, to organise in a different manner from the other provinces. The Legislature set up an authority outside of the control of the regular Department of Education, called the Vocational Education Board, which was charged with the development of a programme of technical education. The Board consisted of a business man as chairman, with a college professor and a representative of organised labour, together with the Chief Superintendent of Education, the Principal of the Normal School, the Secretary for Agriculture, and the Director of Elementary Agricultural Education, ex officio. The Province and the municipalities were to share equally in the expenses of the schools to be established. This provision for the separation of vocational from general education was followed for four years, and then an Act was passed which made it necessary for the Board to secure approval of the Board of Education before putting any policy into effect. This unified the control of education in a desirable manner. The first effort was to organise evening technical classes, and this met with instant success. In the first year a county vocational school was opened which was built with funds from a bequest and supported jointly by the province, county and town in which it was situated. This is an institution which serves the need of a farming area and provides instruction in (a) junior high school subjects, (b) day vocational courses in agriculture, commercial work and household economics, and (c) evening technical classes in business, mechanical and home-making subjects. It is a good example of a vocational school moulded to the needs of a whole district.

Teachers of vocational subjects were trained in summer schools in the Province and by courses which they were subsidised to attend in the United States and elsewhere. In order to provide technical instruction for workers in small villages, itinerant instructors in marine gas engines and automotive repairs were sent about the Province in the summer-time.

It took considerable time to arouse public sentiment in favour of erecting new vocational schools, but after the first three years they began to be established in those communities where they were justified. At the end of six years there were eight such schools,

six of which were of the composite type and two given over wholly to technical education

The following tabulation shows the distribution of enrolment in the various types of schools according to the report for the school year ending June 30th, 1936

DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	ENROLMENT					
	ART	COMMERCIAL	HOUSEHOLD ECONOMICS	INDUSTRIAL	TECHNICAL	TOTAL
7	24	531	153	342	55	1,105

EVENING TECHNICAL CLASSES

NO OF SCHOOLS	ENROLMENT					
	GENERAL	ART	COMMERCIAL	HOUSEHOLD ECONOMICS	INDUSTRIAL	TOTAL
5	256	54	334	339	208	1,191

The Province of Prince Edward Island

This Province, which has often been dubbed "The Million-acre Farm," has few industrial interests outside of agriculture. There is practically no manufacturing of any kind on the island, so that the Technical Education Act of 1919 did not hold out much promise to its population. The increased use of power machinery had made mechanical instruction necessary, even if the appliances were used on, or in connection with, the farm. The workers in the building trades required technical education for acquiring full competency in their occupations even if they dwelt in an agricultural community. Accordingly, an Agricultural and Technical High School was established in the capital city of Charlottetown in 1920, to give vocational instruction in both agricultural and industrial subjects. A special contract was entered into between the Dominion and provincial governments in connection with this school, whereby the former gave one-third of the cost under the authority of the Agricultural Instruction Act and another third under the Technical Education Act, while the Province had to provide only the remaining third. Courses were organised for both day and evening classes and for short courses during January and February.

At first only boys and young men were enrolled for training. As time went on the programme was extended to include household economics for girls, and later commercial subjects were added. The scope and variety of short courses were enlarged and evening

schools were organised in several towns outside of the capital. The enrolment grew steadily year by year with only occasional fluctuations. The enrolment for the last year in which statistics were available, 1934, is given in the following table.

DAY VOCATIONAL SCHOOL

NO. OF SCHOOLS	ENROLMENT				TOTAL
	SHORT COURSE HOUSEHOLD ECONOMICS	COMMERCIAL	SPECIAL INDUSTRIAL	SPECIAL AGRICULTURAL	
1	40	82	123	980	1,225

The Province of Quebec

This Province was really the first in Canada to provide definitely by legislation for technical or vocational day schools as we now know them. The Montreal Technical School was authorised by the provincial legislature in March 1907, but it did not open its doors to admit students until September 1911. This is one of the finest buildings given over to this purpose in the Dominion. Instruction is given on a bilingual basis, i.e. there is both a French and an English section of the staff and all classes are conducted in each language. When it opened it provided technical courses of three years' duration in preparation for the occupations of carpenter, pattern-maker, joiner, blacksmith, moulder, machinist, electrician. In 1917, the work was extended to include automotive mechanics, and in 1925, a co-operative apprenticeship course in painting was established. Difficulties arose concerning continuity of employment for the students in the latter trade during the depression, and in 1935, the arrangement was dropped in favour of complete instruction for two years entirely in the school itself. In 1927, the day course was divided into two sections to take care of two kinds of boys, one of which was looking for intensive practical work to fit them quickly to enter a trade, and the other which desired extensive technical training to enable them later to qualify themselves for expert technical ratings, draughtsmen and junior supervisory positions. The first group are required only to have passed through the elementary school, while the others must have completed two years of the high school programme before entering. This arrangement seems to suit the clientele of the school and modern conditions in industry. The school has also maintained instruction in a large number of technical subjects in its evening classes.

A similar but somewhat smaller technical school serves the same purposes in the city of Quebec.

The Government established schools for higher commercial studies in Montreal and Quebec which give instruction in business

subjects, commercial law, accountancy, etc., in a three-year course that is on a much higher level than that which prevails in the ordinary business colleges or commercial departments of the day vocational schools. The Montreal school provides teaching also by correspondence-study for students in other places in the Province.

Schools of fine arts were also instituted in Montreal and Quebec. Instruction is given in fine and applied art in both day and evening classes which enjoy heavy enrolments.

After the Federal subsidies became available and there was a stirring all over the country to provide facilities in technical education, there arose demands for schools in other towns and cities in this Province. Within a few years there were built and organised industrial schools in Hull, Sherbrooke, Beauceville, Lachine, La Tuque, Shawinigan Falls, Chicoutimi, Port Alfred and Grand Mère. In addition, a special school for the training of workers in the pulp and paper industry was established at Three Rivers and one for courses in forestry at Berthierville.

In 1926, the Province passed new laws respecting technical education which concentrated and unified control of the technical, commercial and fine arts schools. Previously each school was under the administration of a separate corporation, so that there were many difficulties in securing the best educational results. From this date the uniform progress of the different schools has been more easily attained.

In 1928, the Council of Arts and Manufactures relinquished its activities in conducting evening technical schools after fifty-six years of worthy effort. The work was taken over and carried on directly under the direction of Government officials.

The statistics of enrolment during the year 1935-6 are shown in the following tabulation. The figures do not include students who took art or commerce.

DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	ENROLMENT		TOTAL
	TECHNICAL	INDUSTRIAL	
9	529	1,583	2,112

EVENING TECHNICAL SCHOOLS

NO OF SCHOOLS	ENROLMENT		TOTAL
	GENERAL	INDUSTRIAL	
13	131	2,785	2,916

The Province of Ontario

This is the most highly industrialised portion of the Dominion and consequently has the heaviest demands for all types of instruction in this field. The Government has been generous in its assistance to the municipalities that maintain vocational schools. After the people became aware of the values of technical training to youth, to the workers and to the industries themselves, there was an overwhelming demand for the organisation of day and evening schools in nearly every town of any size. In fact, educational officials had to refuse assistance to some places where a careful investigation showed that a vocational school would not be justified.

The whole movement towards vocational education was stimulated also by new regulations regarding the compulsory school attendance for adolescents. It was required that all persons between 14 and 16 years of age who were at work must attend school for 400 hours per year, and those between 16 and 18 years of age must attend for 320 hours per year. With these regulations in force it was clear that the instruction given must be of a technical nature for the most part if it were to be effective.

The grants from the provincial treasury to local school boards for buildings and equipment was 50 per cent of the cost. For salaries it ran from 75 per cent for a yearly expenditure of \$2,000 or less down to 25 per cent for an expenditure of \$15,000 or more. This gradation was to give special help to smaller communities.

From the time when the Great War ended and through the next decade, the progress of technical education was like a triumphal march. The organisation of evening schools, the building programme, the registration of day students, the demands for new courses, mounted and swelled in an amazing expansion. Toronto built a huge building that was planned to meet its needs, but within a few years had to provide three others. There seemed to be no hesitation on the part of the people in voting enormous sums of money to finance this extension of educational service. The boys and girls who used to leave school at the end of Grades VIII or IX seemed to have been waiting for the opportunities in practical training and quickly filled any accommodation that became available. The collegiate institutes continued to attract even greater numbers for the academic courses, and the enrolment in the vocational schools was all additional school population in secondary education. By 1932, there were 61 day vocational schools and 58 evening schools in the Province. There were over 30,000 students registered in each type. This was indeed an amazing growth.

Of course there was a dearth of satisfactory teachers, and a summer school was organised especially for training in the subjects and methods to prepare instructors for the new classes. This was

found to be inadequate, and in 1925, the Province erected a special institute in Hamilton as a normal college for vocational instructors. This is the only one of its kind in the Dominion.

The Government erected a new building for the provincial College of Art and gave it generous financial support so that it could develop adequate courses in both fine and applied art.

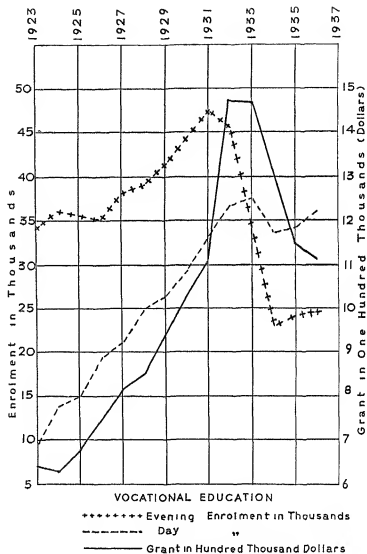
The universities have been loath to accept education in vocational subjects as credits for matriculation even for college courses in science or engineering. It was only after the excellent records made by matriculants from day vocational schools in the college faculties of engineering, household economics and commerce became apparent, that the authorities changed their requirements for entrance and now give full value to certain subjects in the courses of the vocational schools for entrance to college.

Co-operative apprenticeship training was developed in connection with some of the day vocational schools and an arrangement made with industries whereby the apprentices were allowed to attend classes for a certain number of hours per week in working time without any loss of pay. Instruction was given in science, drawing, mathematics and related trade subjects, which resulted in mutual advantage to the learners and their employers. In some cases trade unions negotiated agreements with the technical schools for the training of all apprentices.

In 1928, the Legislature passed an Apprenticeship Act which closely regulated the conditions under which minors could be employed and indentured in the building trades. It was provided that a small percentage of the payrolls of employers should be collected to form a fund whereby the apprentices could be sent to day vocational schools in the winter months for special technical training. This plan worked most satisfactorily while there was a heavy construction programme in progress, but had to be abandoned during the long years of depression. With the revival of business activity in the last three years it is being reconstructed, and other trades have requested that they should be brought under the provisions of the Act. This has been arranged for the hairdressing and beauty culture occupations as well as the automotive repair trades, and the indications are that the movement will extend to other sections of workers.

The enrolment statistics for Ontario show a decided recession in the year 1935-6 from the peak of 1932-3, but with the evidences of increasing prosperity the numbers are on the rise again. A graph taken from the Report of the Department of Education for the year 1936 is inserted on the next page to show the relative values of the last few years.

It is not possible to separate the enrolment figures available into the definite kinds of courses being pursued, viz commercial, industrial and so forth, because many of the schools are of composite character and include more than one type of training. The statement for the year 1935-6 is shown on page 623.



DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	TOTAL	ENROLMENT		TEACHERS	
		MALES	FEMALES	FULL TIME	PART TIME
51	35,418	17,845	17,573	1,188	261

EVENING TECHNICAL SCHOOLS

NO OF SCHOOLS	TOTAL	ENROLMENT		TEACHERS	
		MALE	FEMALE	MALE	FEMALE
29	24,360	11,205	13,155	506	219

The Province of Manitoba

When the Federal Technical Education Act of 1919 came into force the city of Winnipeg had just opened two splendid new technical high schools. The curriculum at first stressed work in household economics, commerce and manual training as a part of the public school course, and work of a strictly vocational nature was not then fully developed. Evening technical classes had been organised in only four or five centres. The first effort was to extend the facilities of the night schools, which was done vigorously and with gratifying results. Attention was then turned towards the setting up of commercial and practical arts courses for boys and girls in the public schools, and the basis was laid for further opportunities to meet the needs of the young people. Special training for vocational teachers was instituted in the Normal School.

In 1923 and 1924, the programme that had been so well started had to be curtailed because of severe financial stringency. In the succeeding year, correspondence-study courses in stationary engineering were undertaken through an arrangement with the Calgary Institute of Technology and Art, and the excellent results obtained led to steady expansion in this field in following years. At this time, also, the work of the Winnipeg School of Art was modified and made available as a means of training young people for vocations in commercial art. Striking developments in the mining and pulpwood industries in 1928 gave a new impetus to demands for a wider range of technical education. This was especially noticeable in home-study subjects. The opportunity was extended to some high school students to take correspondence courses under supervised study, and many elected this method of preparing themselves for specific occupations.

The depression produced exceptionally severe unemployment conditions in Western Canada, and large numbers of relief camps were established to care for those without dependants who were out of work. Manitoba opened its correspondence-study courses to those who wished some technical education, with gratifying results, and in 1935 enrolled 340 students in twenty subjects in the twelve relief camps within its borders. The unemployed were also allowed to enter evening technical classes without paying any fees, and this swelled the numbers to a remarkable degree. There is at present a renewed interest in technical education in the Province, and the Legislature is seriously considering the extension of provisions for vocational training in the public schools and the erection of a Practical Arts Institute in Winnipeg.

The enrolment figures for the year 1936-7 are shown in the following tabulated statement

NO OF MUNICIPALITIES CONDUCTING CLASSES	ENROLMENT			
	DAY	EVENING	CORRESPONDENCE STUDY	TOTAL
4	3,150	5,240	610	9,000

The Province of Saskatchewan

The industrial activities of this Province are almost wholly bound to agriculture as they are in Prince Edward Island. Practically all demands for technical instruction arise from people who desire knowledge of some phase of farming. The field for the application of the Technical Education Act, therefore, was very limited. The provincial legislature in 1920 passed "An Act respecting Vocational Education" which gave powers to the Minister of Education and Boards of School Trustees to provide technical education in both day and evening schools. It was recognised that a certain proportion of its workers would need a knowledge of commercial subjects, household economics, building construction, automotive mechanics and so forth, and that such instruction should be established to meet their requirements. Accordingly courses were offered in four cities and towns and met with a ready response. The Agricultural College at the University of Saskatchewan gave both regular and short courses in farm machinery, gasoline tractors, etc., which met most of the needs of the men who might otherwise seek the training in day and evening technical schools. The vocational courses continued to attract a fair number of students, but there appeared to be no considerable increase from year to year.

In 1929, the need for special training had developed to such an extent that a technical school was erected in Regina, and in 1931 a similar institution was constructed at Moose Jaw. These were filled with eager young people as soon as they were opened, and

steady progress was evident from this time. The continuance of depression conditions precluded developments desired from 1934, but the services already provided were carried on uncuttailed.

The figures for enrolment in the year 1936-7 are given in the following tabulation:

NO. OF MUNICIPALITIES CONDUCTING CLASSES	ENROLMENT		TEACHERS	
	DAY	EVENING	DAY	EVENING
3	3,223	1,258	80	54

The Province of Alberta

The industrial activities in this Province are fairly well diversified because of the vast deposits of coal with over 300 operating mines, as well as broad prairies for the growing of wheat and other crops. In 1919, there was a technical school in both Calgary and Edmonton, and evening technical classes had been organised in four cities as well as in the nine principal colliery towns. Coal-miners in the smaller places were given instruction by means of excellent courses in correspondence-study. Plans were made in that year for construction of a new building for the Calgary Institute of Technology and Art which was intended to serve as the provincial centre for technical instruction of lower than college grade. It had been started three years earlier, but was given over temporarily to the Federal Government to provide a centre in which to re-educate disabled soldiers. Even before it opened its doors, there were organised a variety of vocational courses in day, part-time and evening classes which were carried on in borrowed quarters. A vigorous policy of extending instruction in commercial, industrial and household economics subjects in the schools of the principal centres was prosecuted when Federal subsidies for this purpose became available.

At the time of a temporary depression from 1923 to 1925 there was a vigorous attack by conservative tax-payers on all the recent extensions of school service outside of the academic subjects, but progressive champions of the pre-vocational and vocational training were able to preserve those courses already established and awaken the public to the need for further expansion of this sort of work. The Institute of Technology offered a series of industrial and technical courses in a wide variety of subjects which had been prepared to meet the needs of young men who had been employed for a number of years and required more technical knowledge in order to get ahead. The students who registered for these were 21 or 22 years in average age and came from all over the Province, as well as a few from outside. The results were most satisfactory, as was shown by the subsequent progress of the graduates.

In 1926-7, a wave of optimism was felt in the Province with the proving of a new oil field, a fair production of coal and the harvesting of good crops. Industrial activity revived and concurrently new demands for technical instruction. New courses were added to those already provided in correspondence-study, and training facilities in fine and applied art were offered for the first time. A co-operative arrangement for plumbing and steam-fitting apprentices was entered into by the Institute of Technology and the Committee of Master Plumbers and Journeymen. This year seemed to be a favourable turning-point in technical education for the Province.

In the succeeding year a new technical high school was erected in Calgary and a new wing on the Institute of Technology became available for training men in the operation and repair of gasoline tractors. The result of the termination of Federal subsidies in 1929 caused the Province to increase all the fees for the Institute and in all evening classes. This naturally brought about a recession in the enrolment, but not to as great an extent as was feared. The depression hit the Province very hard indeed, but it seemed to bring about a conviction among young people and their parents that a thorough technical education was the best possible guarantee against unemployment. There was a necessary curtailment of educational services due to the general financial distress, but plans were made for an enlarged programme of technical education when prosperity returned.

In the winter of 1933-4, a group of organisations in Calgary established a series of free evening courses for unemployed people. The sixty subjects ran the gamut of most of the field of knowledge. The teachers gave their services voluntarily. There were 1,050 enrolments, and the Institute of Technology catered for the needs of 534 of them. The attendance was well maintained throughout the winter, although it was a severe season and the school was two miles from the city. The effort was most successful in giving the people out of work some interesting and profitable programme of study and activity for the winter months.

In the winter of 1934-5, a service for general and technical instruction was carried out for the unemployed single men in nine relief camps. A supervisor was appointed, who selected teachers from among the occupants of the camps and had oversight of the classes, 290 men pursued courses in elementary subjects, and 80 followed technical courses in correspondence-study from the Institute of Technology.

The whole curriculum for the programmes of the technical and commercial schools has been revised recently to bring it into line with the sweeping changes that have been made in the curriculum for the regular school grades. Under the new plan students will stay in the general courses through Grade IX and not be admitted to technical or commercial instruction until they attain the Grade X level.

The statistics for enrolment for the year 1934-5 are shown in the following tabulation

DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	ENROLMENT			TEACHERS		
	MALE	FEMALE	TOTAL	FULL TIME	PART TIME	TOTAL
15	2,089	2,065	4,154	102	38	140

EVENING TECHNICAL SCHOOLS

NO OF CLASSES	ENROLMENT			TEACHERS		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
46	797	312	1,109	42	7	49

The Province of British Columbia

This Province had made a fair beginning in organising a system of technical education before the Federal grants-in-aid became available in 1919. Evening technical schools with an enrolment of 2,500 people were being carried on in twelve cities and towns. Correspondence-study courses were being furnished in coal-mining to men who were preparing themselves for examinations for certificates of competency as shot-lighters, overmen, mine managers, etc. Day vocational courses had been established in industrial work for boys and household economics for girls in one of the high schools in Vancouver, and commercial classes were provided in eight different centres.

Under the stimulus of Federal aid the work of extending the facilities for technical education was vigorously pressed forward. Within three years, day vocational classes had been organised in ten different communities and evening classes in thirty-five municipalities. A summer school for training vocational teachers was also started, and the persons who attended it were followed up through the rest of the year by correspondence-study lessons. In Vancouver, thirty craftsmen were gathered together on certain evenings and on Saturday afternoons to pursue the studies that would qualify them for their certificates as manual training or vocational instructors.

In 1925, the School of Art and Decorative Design was opened in Victoria, which offered opportunity in technical training in that city for people with artistic abilities. This was followed a year later by the founding of the School of Decorative and Applied Art.

in Vancouver In 1927, after many efforts to secure co-operation between the city of Vancouver and the adjoining municipalities, a site was purchased and plans were drawn up for a large technical school to serve the needs of Greater Vancouver

In 1929, a large technical school was completed in Vancouver The city had been amalgamated with the two adjoining municipalities, so that this centre serves the whole area for facilities in vocational instruction It is one of the finest and most extensively equipped buildings to be erected for this purpose in Canada The school has been planned to prepare men in the trades of stationary engineer, electrician, sheet-metal worker, cabinet-maker, carpenter, joiner, plumber, painter, automotive mechanic and printer It is the ambition of the city authorities to extend it so that it will be able to give the necessary instruction for every important occupation to be found within its limits Arrangements have been made with the local Apprenticeship Council to carry on a co-operative form of training for a group of apprentices who are following six different occupations In the first year there was an enrolment of nearly 1,000 students

The school offers three types of day courses

1 *A Matriculation Course* of four years in preparation for entrance to training in engineering or applied science Stress is laid upon the sciences of chemistry and physics, and shopwork is given in sheet-metal, printing, and machine-tool operation for only one year

2 *A Technical Diploma Course* of four years for those who wish to fit themselves for direct entrance into industry There are two options in this course (a) for those boys who have not decided just what trade they wish to follow and who desire general shop experience, and (b) for those who elect the definite occupation which they intend to pursue and take all their practical work in one of the ten trade sections offered This diploma course is the one which is followed by the great majority of students

3 *Special Course for Advanced Students* This is planned to meet the needs of boys who have had at least three years of high school work, for youths and men who have had some actual industrial experience and desire further technical training, and older persons who might wish advanced study for recreational and cultural purposes The offerings in this course include eleven different branches of occupational instruction

The school was planned and started with broad objectives of service in technical and trade education, and is expanding its programme to meet the needs as they develop

The figures for provincial enrolment for the year 1936-7 are shown in the following tabulation

DAY VOCATIONAL SCHOOLS

NO OF SCHOOLS	ENROLMENT				TOTAL
	ART	COMMERCIAL	INDUSTRIAL	HOUSEHOLD ECONOMICS	
17	89	4,584	4,493	3,153	12,319

EVENING TECHNICAL SCHOOLS

NO OF SCHOOLS	ENROLMENT			TEACHERS
	MALES	FEMALES	TOTAL	NO
34	5,250	3,511	8,761	272

C EXTENSION OF THE FEDERAL TECHNICAL EDUCATION ACT

The end of the ten-year term during which the Federal Government subsidised technical education came on March 31st, 1929. The only one of the nine provinces which had expended enough on this service to earn the whole of its appropriation was Ontario, which had, in fact, far exceeded this sum. Earnest requests were made to have the term of the Act extended so that each province might receive its full share of the fund. Accordingly, on April 30th, 1929, the Act was amended so that its provisions were made available for another five years to those provinces which had unexpended balances to their credit in the Federal treasury. Even at the end of the fiscal year 1934, the provinces of Nova Scotia, Manitoba and Saskatchewan had not been able to absorb fully the portions of the fund allotted to them, so the term of the Act was again extended for a further five years. On March 31st, 1938, all but Manitoba had used up their balances.

Vocational Education Act of 1931

While a few of the provinces were slowly spinning out their remaining credits of the unexpended portions of the fund created by the Act of 1919, it seemed that the others would get renewed assistance under the authority of fresh legislation. So much progress had been made through the policy of Federal subsidies that there was an insistent clamour from many sources in 1929 that it should be continued for at least another ten years. Some provinces which had striven valiantly to promote and maintain an adequate programme of technical education found themselves in a difficult position to carry it on fully when the financial assistance of the Dominion came to an end. There was enough favourable public opinion to prompt Parliament to pass legislation renewing the policy of subsidies for this purpose. This was entitled, "An

Act for the Promotion of Vocational Education in Canada" (21-22 George V, Chap 59). This provided a sum of \$750,000 annually for a period of fifteen years from which payments might be made to the provinces according to the proportion of their populations to that of the whole of Canada at the nearest preceding census. In order to secure any subsidy, a province had to prepare a full statement of its plans for the succeeding year in vocational education, and the estimated expenditure to carry them out. If these were deemed right and proper, then an agreement would be drawn up by the Federal and provincial authorities which would become valid and active after it had been approved by the Governor-in-Council.

Provisions of the Act

This Act was not as definite and rigid as its predecessor. Instead of limiting vocational education to a certain specified range of activity, it provided that

"The Governor-in-Council may make regulations with respect to the following matters

"(a) The definition of the expression 'vocational education'

"(b) The particular types and grades of vocational education to which assistance may be granted,

"(c) The procedure to be followed in the administration of this Act,

"(d) The extent to which assistance may be made available towards the continuance of existing vocational education work,

"(e) The extent to which assistance may be made available for lands, equipment and furnishings,

"(f) The extent to which any portion of the annual appropriation remaining unexpended at the expiration of any fiscal year may be carried forward and remain available for the purposes of this Act,

"(g) The auditing of vocational education accounts."

The annual sum appropriated was only three-quarters of that which had been provided under the former Act. This action was probably due to a motive of economy, and also to the fact that the provinces as a whole had not previously used up all of the annual amount that had been available to them. Such an estimate was not altogether sound, because work in agriculture had not been recognised as coming within the definition of technical education, although vocational training in this industry was just as necessary and valuable as in all other branches. It was intended that the different needs of the various provinces would be taken care of in the details of agreements which would be entered into with them, and which would not necessarily be uniform. It was also planned to include training for agriculture as well as for all other forms of gainful occupation.

Suspension of the Act following the Depression

Those who were most deeply concerned in the question of vocational education and looked forward to its continued expansion

and progress were enthusiastic when the Act was assented to on August 31d, 1931. Their hopes were quickly dashed to the ground again, however, because the onset of the great depression caused the Federal Government to suspend the Act indefinitely. The provinces were left to stagger along as best they could by themselves.

When this Government was defeated in 1935, it was thought that its successor might put the Vocational Act of 1931 into force, since critical problems of training vast numbers of unemployed young people were pressing for action. The matter was brought forward vigorously by provincial premiers and by representatives of important interests involved, but the leader of the new Government stated categorically that the Act would not be made effective because he did not believe in the principle of assisting provincial activity in a specified service by subsidies as provided in this Act.

New Policy for Unemployed Youth

In 1937, however, this same Government became so deeply concerned about the grave problems of unemployed youth that it provided the sum of \$1,000,000 for the National Employment Commission under the Department of Labour to be spent in that fiscal year for the purpose of training young people between the ages of 18 and 30 in and for useful occupations. The same old basis of co-operation in sharing the cost equally was adopted by the Federal and provincial authorities. The money was proportioned roughly to the population of each province, and the latter still was recognised as the agency which should carry out all the instruction given. A separate agreement was drawn up with each province in which all the various forms of activity were specified, and the approximate estimated cost of each separate project. Programmes of training were carried out by a variety of local authorities, but usually through the Departments of Agriculture, Education, Mines and Labour.

The provinces were all requested to submit suggestions whereby unemployed young people could be quickly made competent for semi-skilled and skilled occupations, and naturally the proposals covered a bewildering range of activities. It was definitely understood that the appropriation was made for only the one year, and there was no guarantee expressed or implied that any money would be available for this purpose after March 31st, 1938. This led to much haste in formulating and organising schemes of training for great numbers of small groups, and to planning for abbreviated periods of intensive instruction.

No adequate description of the many varied efforts can be given in the compass of one or two paragraphs. There was a general division of the work into two parts, one for people in urban centres and the other for those who lived under rural conditions. Existing technical and agricultural schools and other similar facilities were used as far as possible. Definite efforts were made for vocational

guidance and counselling of students at their entrance to courses and for their employment when they had finished. In some cases, where persons had to go away from their own homes to take up training, maintenance grants were provided, and in some instances necessitous individuals were assisted in like manner.

Notes on Schemes by Provinces

Some idea of the variety of effort may be gained in a statement regarding the ways in which different provinces furnished training for occupations in metal mining. Nova Scotia took over a developed gold mine, extended its equipment, staffed it completely with a whole working and supervisory force, and enrolled 316 young men of selected physique and aptitude to train them in a one-year course. While they were being trained they received free board and lodging, mine clothing and a daily allowance for pocket money. The chief occupation for which they were prepared was that of drill runner, but some were instructed as millmen, timbermen, hoistmen, track layers and drill sharpeners. When they reached a satisfactory stage of proficiency, they were transferred to a regular producing mine and finished off under actual commercial conditions. During the first year of operation, 125 men were placed in regular permanent employment. Places were found for them as far west as Ontario, and their railway fare was paid to the point where they started work.

New Brunswick organised a project in which youths were given instruction and experience in actual prospecting in the bush and in geological survey work.

Quebec purchased a gold mine and carried on the same kind of project as that described for Nova Scotia.

Ontario established a special course of six months' duration at one of its special vocational schools at Hailcybury, which is situated in the heart of a silver- and gold-mining district. Instruction was given to fifty young men in classes and laboratory work in mine surveying, drafting, assaying, mineralogy and other technical subjects relating to metal mining. Employment was secured for most of them in the mines of the Province when they had completed their course.

In British Columbia special camps were established in gold placer districts, and groups of young men were taught under competent supervision how to extract placer gold from the gravels. They were then divided into smaller groups and given several months' experience in actual prospecting with grub-stakes supplied by the project.

In some provinces selected young men from urban centres were placed as apprentices with experienced and capable farmers. In others, assistance was given to youths on the farms enabling them to attend winter courses in agriculture at schools and colleges. Large numbers of unemployed men were sent into lumber camps and were trained for the different vocations in forestry and lumbering.

In nearly every province, special schools were set up which gave unemployed young women intensive practical courses to prepare them for competency in household service. These were from $2\frac{1}{2}$ to 3 months in length, and employment was readily secured for most of those who attained the required standard of proficiency. Other projects were undertaken to give instruction in the needle trades, business, handicrafts, etc.

Great efforts were made, especially in Ontario, to place unemployed youths in organised industry as learners and apprentices. A careful selection was made of the candidate for each opening to try to be sure that the man and the occupation are fitted to each other. Assistance was granted in payment of tuition, travelling expenses, maintenance grants, and even in some cases compensation to employers for instruction allowance.

Projects were also organized where the objective was merely the physical training and recreation with the purpose of restoring and maintaining the morale of groups of unemployed youth.

Some Results of the New Policy

The results of this far-flung attempt to give idle youth some intensive vocational training for a job and help them to get a foothold in an occupation cannot be accurately evaluated at present. The record shows that 55,457 young unemployed people were trained in 1,474 classes during the year. 32,301 were males and 23,156 were females. 14,560 completed courses which fitted them for employment and 3,282 found work. The efforts are praiseworthy, and one notable achievement that is now known is an appreciable general gain in morale. Some further experience will serve to show what projects are worthy of expansion and duplication, and will also develop special methods and technique of instruction to make the work most effective. A new policy has been introduced into vocational education in many of these group plans whereby the students have been paid partial wages directly from Government funds. There is some danger that in the future young men out of work may come to regard such a special privilege as an inalienable right, just as a great number of unfortunate people who have been compelled to accept unemployment relief for long periods have an idea that it is now a fixed social and economic policy. The Federal Government has been so well satisfied with its experiments in vocational education last year that it has appropriated more than twice as much (\$2,250,000) for the present fiscal year.

D CONCLUSION

Enough has been stated to show that most of the developments in technical education in Canada have come about during the last thirty years. The progress has been greatest in those provinces where organised manufacturing industry is most extensively

developed. The provisions in buildings, equipment, teachers, courses, etc., for the purposes of vocational education are very unevenly distributed throughout the Dominion, even on a *per capita* basis. Even if the facilities for agricultural training are added to those of technical education, it is clear that the young people in some provinces are suffering distinct handicaps in their opportunities for preparing for their work in life. The most evident way to help to equalise the facilities for making youths competent for their occupations would be a renewal of the Federal policy of subsidies for this specific purpose. If its annual general subsidies to provinces were merely increased, there is no guarantee that each province would be equally solicitous about establishing an efficient system of vocational education. Some of them have burdens entailed by mistakes of the past, and some are enthusiastic about some promising materialistic promotions that may lead to a greater degree of prosperity, and these considerations influence them to be somewhat niggardly in all appropriations for education. Some of the provinces are definitely poor, and cannot afford to carry out the measures they desire to improve the facilities for vocational training. There is need of advancement in this field, and it will doubtless come in the near future, but how it will be brought about cannot be predicted at the moment.

F. H. SEXTON

CHAPTER SEVEN

TECHNICAL EDUCATION IN AUSTRALIA

(See also YEAR BOOK, 1932, pages 570-99, 1933, pages 462-75, 1934, pages 294-325, 1935, pages 260-77, 1936, pages 618-43, 1937, pages 186-200 and 314-20, 1938, pages 172-98)

Introduction

THE general educationist who essays to write on the problems of technical education is apt to feel rather out of his depth. Lack of knowledge of technical processes and lack of first-hand contact with industry induce the feeling that he is approaching the subject from a distance and the fear that his views will be tinged with unreality.

Having made this confession and having disavowed any intention of discussing technical education *qua* technical, one may perhaps turn all the more boldly to the very difficult educational and sociological problems which lie in this field. These are serious enough.

The principal of a school which gives technical courses for women remarked that an administrative officer had indicated by his comments that he considered that her work was "not sufficiently technical." The present writer has also been told by a teacher in a junior technical school that some years ago his defence of a certain course of study into which he had deliberately introduced some liberal elements was met by the remark, "You can't specialise too early." These remarks, however untypical they might be, serve to focus attention on one of the most vexed problems in the whole field and on the need for a clear definition of the purposes of technical education.

It is not difficult to see that issues of a fundamental nature are involved. An emphasis on early specialisation and a willingness to concentrate on the production of technical efficiency at the risk of damage to broader interests and general culture would appear to arise either from a certain attitude towards society or from a certain view of the distribution of human abilities. Apparently some take the view that the interests of organised industry are paramount and that the provision of a steady stream of trained workers with a sprinkling of scientifically trained leaders is so important that the attempt to provide the fullest possible life for each individual is but a secondary consideration. Their attitude seems to imply that we should decide such issues on the basis of the interests of the community rather than on the basis of the potentialities, the interests and the

desires of the individual.¹ We must suppose that they regard it as more important to see that industrial progress is not hampered by lack of workers than to produce a higher general standard of education and of appreciation in art, music and literature. On the other hand, the advocates of early specialisation may, perhaps without knowing it, accept the view that those who at present enter technical schools for trade instruction are best adapted to this type of work and are relatively incapable of responding to general education. They are apparently not worried about, even if they are familiar with, the uncertainties involved in early vocational decisions.

It is doubtful whether any responsible person would to-day explicitly advocate early specialisation to the detriment of a reasonable general education,² or condone a system which tends to determine the life-work of an individual on the basis of economic status of the parent. It is true that through scholarships and through a greater readiness to recognise talent and ability wherever it occurs we have done something to remove the old blemishes, but we would take far more vigorous action along these lines (and would, we suggest, be far more critical of the practice of drafting pupils into separate institutions at an early age) if we were not still living in the shadow of the industrial era when society permitted a scandalous exploitation of human life in the interests of increased monetary returns for those in privileged positions. The rationalisation which was used to justify this was the view that each person was born into a certain "lot" in life, which automatically determined his duties—or his privileges. We have now substituted in theory the view that the "lot" should be determined by the pupil's own ability and aptitude, but the economic factors still enter into the matter more than we care to admit. The new emphasis makes the prediction of aptitude a matter of the greatest importance. By the age of 11 or 12 we can make a fair estimate of the pupil's general level of intelligence, but predictions of special aptitudes and of permanent interests are at this stage almost out of the question.

¹ The serious economic competition between the nations to-day and the advantage gained by totalitarian States through their policy of educating youth so that it is willing to conform unquestioningly to the requirements of the community may make it still more difficult for the democracies to retain the freedom for the individual which has been so hardly won through the centuries.

² And yet we get an approach to this position, sometimes by those who consider that our present general standards of education only go far enough to make our young people susceptible to plausible propaganda, sometimes by those who conceive of education only in terms of vocational preparation. For example, an Australian educational administrator some years ago considered that an extension of the numbers in high schools was undesirable because there would not be positions for the pupils on leaving. In a debate on the raising of the school-leaving age, one of the State Ministers of Education quite recently issued a warning about "stuffing the herds of unsuitable children with knowledge."

Technical Progress versus General Culture

From the point of view of human progress in general we may ask whether technical efficiency may not be pushed too fast and too far. There seems little doubt that technical advances during the present century have produced such rapid and such far-reaching changes in economic conditions and vocational requirements that social intelligence has been left well behind.¹ It is probably not far to blame technical and scientific progress alone for the fact that the times are so badly out of joint. But if it were evident that deliberate control of technological advance would effect a remedy, and if this should involve some readjustment of emphasis as between technical and general education, only those with vested interests would be likely to object.

We seem as yet far removed from any system of rational control of technical development, especially with the world as it is to-day. We may, however, still discuss the relative emphasis placed on vocational and on "general" education. One of the lecturers in the Engineering School at Melbourne University has expressed some challenging views on this subject in a book entitled *Education for Industry and Citizenship*.² He considers that the educational system at present stands at the cross-roads. One path leads to education on a highly specialised basis conforming to the specialised organisation of industry. The other path leads towards the amplification of the general cultural background of citizens so that our common heritage will be available to counteract the disintegrating tendencies associated with the high specialisation which appears to have become a permanent feature of occupational life. His book is a strong plea for following the second rather than the first alternative.

If there is a danger of education paying too much attention to vocational preparation and too little to the production of socially valuable attitudes and interests, it would be a serious error to regard the problem as applying only to those forms of education generally known as technical. The secondary school of academic type, even the university itself, can provide an education which is narrowly vocational in outlook. The student who specialises in a small number of advanced studies, even if they involve the higher flights of mental work, does not necessarily achieve a broad outlook and a wide sympathy with his fellows. The relatively uneducated artisan who works with his hands and contributes to the family

¹ A friendly critic who saw the first draft of this article suggests that perhaps social intelligence is not so far behind, but that vested interests, tied to existing financial and economic systems, may prevent its expression in the adaptation of society to its new privileges. We fully agree with this comment, with the qualification that one can imagine a degree of social intelligence capable even of dealing with these vested interests in a satisfactory manner.

² F. G. Sublet, *Education for Industry and Citizenship*, A. C. E. R. Research Series No. 45, Melbourne University Press. Out of print.

income at an age when the student is still engrossed with his books may well surpass the latter in these qualities¹

Admittedly young people have to receive not only a general training but a vocational training as well. They have to be fitted both for life and for livelihood. Admittedly, also, there are some occupations which require a much higher standard of general education than others. Assuming that the general education comes first, it follows that vocational preparation will commence at varying ages in the case of different individuals. This at once raises questions of selection and organisation. Shall the break between general and technical education be complete and sudden, or shall it be gradual? Shall the technical work be given in a separate institution? At what age will it commence? How shall pupils be selected for technical education? Is it to be assumed that the "first pick" of students should continue their general education while the "second pick" go into technical schools? If so, what is to be the criterion of selection and how reliable is this criterion? What is and what should be the relationship between technical education and trade instruction?

Some discussion of these points will emerge as we proceed. For the time being we must be content with the comment that the problems of technical education bring to a focus certain issues which underlie our educational methods as a whole. In the elementary stage we proceed fairly happily to give a general education in which the mastery of the tools of knowledge plays a large part. We are not forced at this stage to ask very precisely what we are aiming at—perhaps it would be better if we were. The difficult problem of selection of pupils for differentiated forms of education has not yet arisen, though even at this stage there should be commenced that study of each pupil's interests and aptitudes which will assist in his later guidance.

Some Personal Views

Perhaps the writer ought to state candidly his own views on some of the major issues. In the first place, he holds it unfortunate that the term "technical education" should be used for any form of training below the age of 14 or 15 years. As used at present, technical education stands both for a secondary and a tertiary stage of education. To apply the label "secondary" only to those schools which follow the traditional bookish curriculum is not only to perpetuate an illogical limitation of the term, it also tends to prejudice the question as to whether academic and technical education at this stage should not be brought much closer together than they are. The educational aims for the years from 12 to 15 should surely be first that of cultivating general interests, information and appreciation, and, secondly, that of

¹ A friend reminds me at this point of the advice of the coloured woman to her son: "If you don't get education you just have to use your brains."

giving the pupil the best possible chance of exploring (and the teacher of observing) the directions in which his aptitudes chiefly lie. In some directions the "secondary" school pupil has been, perhaps, the chief sufferer. Under Australian conditions, at least, he is often denied those practical forms of expression which mean so much to all young people.¹ Few men who pass through the universities into the professional walks of life experience the joy which comes through learning how to do skilled work in wood or in metal, or the satisfaction derived from knowing just how an electrical appliance works.

Criticism of Differentiation based on Intellectual Aptitude

There still lurks in many minds the false psychology of compensation which holds that those whose intellectual abilities are not above average make up for it by having special skill on the practical side. The custom of differentiating on the basis of intellectual aptitude between those who are to receive academic training and those who are to receive technical training is one which lies open to serious question, especially if the differentiation is made at an early age. It is objectionable, first, because industry needs at least its fair share of the best brains, secondly, because serious mistakes are liable to be made if vocational aptitudes are assessed without opportunity for genuine exploratory courses,² thirdly, because the system fits in with, and tends to perpetuate, class distinctions and economic stratification, if for no other reason, because those parents who are on the lower salary ranges cannot afford the cost of a professional education for their children. A common school would at least throw all pupils together for a few additional and very significant years.

In spite of certain admitted advantages in having separate schools, the writer cannot reconcile himself to a system which involves segregation before the age of about 15 years. It may be claimed that we can overcome the objections by providing practical facilities in secondary schools and by introducing plenty of liberal courses in technical schools. The farther we go in this direction, however, the less justification appears to remain for maintaining separate institutions. The only really serious argument for specialised institutions at this level is the unquestionable fact

¹ Some ten or twelve years ago one of the principal State secondary schools in Australia was planned with the idea that certain rooms would be used as practical rooms and workshops. The Minister of Education happened to inspect the building before it was finished. On hearing of the intended use of the rooms in question, he refused to sanction the expenditure for equipping them, on the grounds that the technical school, and not the high school, was the place for such work.

² In Australia, at least, it cannot be claimed that there is any genuine system for the guidance of pupils into academic and technical courses, respectively. Practically the whole emphasis is placed on selecting those who are "fit" for secondary schools, the assumption being that those who are left are best suited by technical courses.

that a higher level of achievement is, on the average, likely to be reached within a given time in a uni-purpose than in a multi-purpose school. But the postponement by even as much as a year in the achievement of a given level of technical or scholastic efficiency is a price which modern society might well be prepared to pay in the interests of a truly democratic system of education, and one which provides ample opportunities for each pupil to reveal his true interests and abilities. Any apparent wastage of time would almost certainly be more than offset in the long run by the avoidance of the wastage and misplacement of talent which is inevitable if children are drafted at 11 or 12 years of age into educational establishments which, though not in themselves vocational, determine in large measure the occupational group which children will enter. No system of transfers ever appears to work really satisfactorily, and, in any case, it does not overcome the objection to having institutions which in practice at least are regarded as being of "higher" and "lower" grade. An American visitor who made a close study of Australian schools disliked more than anything else he encountered the system whereby "the second pick" of pupils, a phrase used in his hearing by an educational official, are drafted into technical schools.

We are not making a plea for uniform courses for all pupils to 15 years. Variations in the abilities of individual pupils would make such a procedure both impracticable and undesirable. We wish, rather, to make quite plain the reasons which form the basis for certain views—or should they be called prejudices?—which may be revealed in any discussions of the provisions made in Australia for the early stages of technical education. From evidence to be given later, it is obvious that the popular demand for technical training has increased considerably in recent years. This may be the basis for the improved prestige of technical schools which it appears possible to detect. If this process continues, one of the objections we have raised may eventually be removed, though it is not easy to see how this can be completely achieved under the present system.

Need for Best Qualified Teachers

Discussions on post-primary education in Australia do not reveal any movement towards a common institution for pupils up to 14 or 15 years. We shall, therefore, have to assume that Australia will continue for some time to provide separate schools for separate types of post-primary education at least in centres of large population.¹ If this be so it will be well for technical

¹ As will be seen from the 1937 YEAR BOOK OF EDUCATION, the States vary in this respect. Queensland, South Australia and Western Australia have the least clearly defined junior technical school system. Western Australia, for example, has one separate junior technical school and four schools where junior technical instruction is given alongside high school courses. This latter arrangement is, however, regarded as a temporary expedient only.

institutions at this level to follow the sage advice of Dr F H Spencer, who, when on a recent visit, suggested that care should be taken to ensure that the non-technical subjects are entrusted to teachers who, if possible, were of even greater capacity than teachers of the same subjects in schools of academic type. There is a distinct risk in a technical system that subjects of a non-technical character will be included in the curriculum in somewhat grudging fashion as a necessary concession to general opinion. The pupils themselves, if they are recruited in the main from the less successful members of the elementary school, are likely to have acquired a distaste for the subjects in question. The only remedy is to place such subjects in the hands of teachers who have sufficient command of their subject, and a sufficiently liberal outlook, to enable them to work out courses fully adapted to the needs and capacities of the particular group they are teaching, courses which will rekindle dampened enthusiasms and awaken potential interests. In no branch of education are uniform requirements less justified.

The Problem of Completing Technical Education Course

In an unpublished paper,¹ Mr L W Phillips, Assistant Chief Inspector of Technical Education in Western Australia, expresses the view that it is unfortunate that Australia has followed the English rather than the Continental tradition in its assumption that students will complete their technical training by taking up positions with firms and by attending technical classes in their leisure hours. It is undoubtedly true that many serious students give up three or four evenings a week over a period of several years, although they are working for the full eight hours each day. In Australia apprenticeship conditions, as we shall see, usually require the apprentice to give up some of his leisure time. Mr Phillips comments that "leisure-time education should be reserved either for purely cultural education or for education having as its basis qualification for a higher status in industry."

The general educationist will hesitate to express an opinion on the vexed question of how "works experience" and theoretical training should be combined, on whether the technical institution ought to retain its students for a longer period of full-time instruction with a consequent reduction of the probationary or apprenticeship period in industry itself. From a purely instructional point of view works experience is undoubtedly a very wasteful method and must often fall far short of what is desirable in breadth, range and purposiveness, although one must admit the special psychological value of being engaged on "real" jobs. In Australia, at least, the question of later entrance into positions is not at present likely to be settled on educational grounds alone because of the pressure that would be brought to bear by industry to retain the service

¹ *The Influence of the English Tradition on Technical Education Systems of Australia*

from employees which they secure at present before adult wages must be paid. Australia has much to learn from the United States in this matter of extending the age of entry into industry and of continuing education during the years thus gained.

Problem of Pupil's Vocational Future

Subject to the provision that primary emphasis is placed on the production of good citizenship in the fullest sense of the term, we must approve of all attempts to raise the standard of technical knowledge and skill to the highest point possible. There can be no doubt that the technical schools do notable work in this direction for students of ambition and of sufficient ability to master the theoretical courses. One has an uneasy feeling that more could be done for those who at present leave school influences behind without having acquired any vocationally utilisable skill, the group which provides many of the recruits for the ranks of the unskilled and the unemployed. In Australia there are many pupils who go neither to "secondary" nor to technical schools, but who drift on to an uncertain termination of their studies at the elementary school or some slight modification of it.¹ It would indeed be a step forward if the compulsory school attendance clauses operated not merely until a certain minimum age had been reached, but until some responsible committee was satisfied in each individual case about the pupil's vocational future.

Origins of Australian Technical System

The technical system is no exception to the general rule that Australian educational ideas and practices have in the main been based on those of England. For many years Australia was merely an outpost of the Old World. The gradual emergence of a local sentiment and the force of circumstances very different from those of the Mother Country have produced an interesting and not always logical mingling of the traditional and the new. Thus the Englishman will be interested to find in most rural centres, and in a few urban ones, a Mechanics' Institute or School of Arts which long ago gave up any attempt to provide instruction for artisans, but which, instead of dropping out of existence like its English progenitor, maintains a precarious existence in running a subscription library, with perhaps a billiards room and a hall for hire as its main sources of revenue.

The Englishman would feel himself on familiar ground in finding that each of the Education Departments was organised into a primary, a secondary and a technical branch, each under a chief inspector, but would be surprised at the absence of any local

¹ That the writer is not alone in this opinion is shown by the fact that at an inspectors' conference recently one speaker referred to this group as "the legion of the lost"; another inspector went even further and called them "the legion of the damned."

boards or bodies with which these officers have to co-operate. As already indicated, he would find a general acceptance of the view that it is desirable to establish separate institutions for post-primary education, including some with a technical bias, in contrast to the American method of providing a single school with a wide variety of courses. He would find, however, that Australian practice favoured a commencement of these courses at 12 plus rather than 11 plus. On the whole, he would find the English nomenclature was followed, though he might come across illustrations of the fact that the same name may mean two different things.

Some Important Influences

The landmarks in the development of the Australian technical system are tabulated in chronological form in Table I¹. We may here draw attention to certain factors which have had an important influence on its development, although limitations both of space and of knowledge will prevent a full discussion of them.

Technical education must obviously be the handmaiden of secondary industry. The present importance of technical education in Australia is entirely due to the marked growth of secondary industries. This growth is revealed in striking fashion by the fact that while the total production of the Commonwealth increased 235 per cent between 1906 and 1935, the production in the manufacturing industries over the same period increased by 440 per cent. For the year 1935-6 the total value of recorded primary production was about £188,000,000 and that of factories was about £163,000,000.

The discovery of gold in 1851 may, for several reasons, be selected as commencing the first important stage in this growth. It added very rapidly to the population of the country and thus supplied the beginnings of a local market. The lure of gold attracted a certain proportion of skilled workers, some of whom turned to their trades rather than to farming when the gold rushes were over. Most important, it led to the establishment of schools of mines to provide instruction in the branches of science related to mining. The first such school was the Ballarat School of Mines, established in 1870. There are perhaps a dozen technical schools in Australia, chiefly in Victoria, still operating under the title "school of mines". Some of those situated in active mining areas such as Kalgoorlie² and Ballarat have important mining sections, the majority of such schools are very little different from ordinary technical schools. One of the oldest, the Bendigo School of Mines, includes a three-year course in agriculture in its syllabus.

¹ Most of these details have been abstracted from the paper by Mr L. W. Phillips mentioned earlier.

² It is significant that the School of Mines at Kalgoorlie is controlled by the Department of Mines and not by the Education Department. The research department at this school was responsible for important developments in the treatment of gold by the oil-flotation process.

TABLE I—IMPORTANT DATES IN HISTORY OF

NEW SOUTH WALES	VICTORIA	SOUTH AUSTRALIA
1865 Mineralogy, geology to design, chemistry, introduced at Mechanics' School of Arts, Sydney (which later became the Sydney Technical College)	1868 Parliament voted £200 a year to promote industrial education	1861 School of Design under Society of Arts (In 1881 placed under control of Museum and Art Galleries Board and in 1906 under Education Department)
1883 Technical Education Board appointed and technical classes established in two city centres	1869 Royal Commission to report on technical education became permanent controlling body	1876 Evening classes for mechanics started by Chamber of Manufacturers and taken over by Council of Education
1884 Classes in geology and mineralogy at Newcastle	1870 Ballarat School of Mines	1888 Gawler School of Mines
1885 Classes at Bathurst and Goulbourn	1873 Bendigo School of Mines	1889 Adelaide School of Mines and Industries
1889 Technical Education Board dissolved Work placed under Education Department, with Technical College as headquarters	1885 Schools of Mines established at six additional country centres	1891 Three provincial Schools of Mines established
1904 Knibb's Report (unfavourable to apprenticeship training)	1890 Education Department took over control of technical education	1904 Commission on Shortage of Labour drew attention to lack of facilities for technical training
1918 Board of Trade established with powers over apprenticeship	1899 Royal Commission on technical education	1912 Technical Education of Apprentices Act passed (applied for first time to woodwork, ironwork, printing 1919, to plumbing 1920)
1922 Board of Trade reports on unsatisfactory conditions of apprenticeship	1901 Recommendations for improving apprenticeship	1927 Adelaide Technical College
1933 Commission of Inquiry into Technical Education	1914 Establishment of number of junior technical schools commenced	
1936 Advisory Councils (representing employers and workers) to act in conjunction with technical colleges	1927 Apprenticeship Commission (under Department of Labour) set up by special Act	
1937 Establishment of full-time day pre-apprenticeship classes for pupils with at least two years of secondary schooling		

TECHNICAL EDUCATION IN AUSTRALIA

QUEENSLAND	WESTERN AUSTRALIA	TASMANIA
1881 Brisbane School of Arts established, with night classes in mechanical drawing	1896 Classes for employees in railway workshops	1888 Technical schools established in Hobart and Launceston
1882 Technical College established (on model of Sydney Technical College)	1900 Perth Technical School opened	1892 School of Mines at Zeehan and later at two other provincial centres
1900 District Schools of Arts established	1902 Kalgoorlie School of Mines	1916 Commission conducted by principal of Sydney Technical College recommended that Government take over technical education
1902 classes in technical subjects	1916 Examinations introduced for apprentices in certain trades	1918 Technical Branch of Education Department established and superintendent appointed
1902 Board of Technical Education set up	1925 Arbitration Act amended to provide half-day instruction per week for apprentices	1919 Junior technical schools set up in four centres
1905 Education Department assumed control of technical education	1938 Royal Commission on Youth Employment and Apprenticeship	
1924 Apprentices and Minors Act (amended 1929)		

Special mention must be made of the influence of the protective tariff system. The first tariff Act was that passed by Victoria in 1866. When the States federated in 1901 all matters pertaining to customs duties were vested in the central government and a system of protection for the fostering of secondary industries became the accepted policy of the Commonwealth. The effect of this policy has been, of course, to increase the consumer's costs and this tends to bear harshly on the primary producer. There has, however, been a reasonable effort on the part of the Tariff Board to reduce steadily the degree of protection once a local industry is established. The subsidies which the Federal Government has found it necessary to provide for primary producers are an indication that reductions have not been very thoroughgoing. The success of the protection from the point of view of assisting secondary industry is undoubted.

The Great War had results of many kinds, but its final effect on secondary industry in Australia was undoubtedly a stimulating one. It served to bring forcibly to attention Australia's dependence on manufacturing countries and the vulnerability of her trade routes. Incidentally, too, the efforts put forth by the Repatriation Department to train returned soldiers in skilled and semi-skilled occupations yielded lessons both of a positive and a negative character.

In more recent years the Ottawa agreements have tended to stabilise trade and, within the internal economy of the British Commonwealth, to secure for Australia the opportunity for pushing forward in certain fields of manufacturing. Finally, the rearmament programme has, within the last few years, stimulated advances in precision engineering.¹ Of significance in this direction is the recent decision to build complete aeroplanes, including engines, in the hope that there will be some export to adjacent countries in addition to the local consumption.

Technological developments have now become so extensive that within the last few months the Council for Scientific and Industrial Research, which is subsidised by the Commonwealth Government, has established a special section to act as a clearing house and bureau of information in the matter of industrial problems and developments.¹

A full study of the history of technical education in Australia would have to consider the part played by the organised labour movement. The establishment of apprenticeship schemes must, of course, be carried out with its co-operation.

It sometimes happens that the organisation into trade unions represents a higher degree of specialisation than is desirable for purposes of instruction. In such cases the technical education authorities may have to overcome some opposition in introducing courses of a reasonably broad character. In general, the Labour

¹ For some facts concerning the growth of secondary industries in Australia see the Australian 150th Anniversary Number of *The Times* article by Dr G. L. Wood.

Movement is opposed to the employment of unindentured juniors—or “improvers,” as they are called in Australia—who, having no contact with their employers, may be dismissed at any time, may pass from employer to employer on a bargaining basis, and may present themselves as fully qualified tradesmen without having received a proper course of training. Although this opposition may at times have hindered the establishment of trade courses for others than apprentices, many such classes exist. The technical authorities themselves are in favour of moving towards a system which brings all workers under control and guidance until they are fully qualified. As we shall see later, the apprenticeship systems in some States have already made some progress in this direction.

Finally, we must mention the effect of the economic depression. It resulted not only in very serious unemployment and distress, but prevented a large number of youths from undertaking training, since there were apparently no jobs awaiting them. The result is a very serious shortage of skilled workers to-day, and a tragically large number of young people in their early twenties who are without the security afforded by the possession of skill in a trade, if they are not actually unemployed. With woeful lack of foresight some of the States made it even harder for training to be obtained through their action in raising school fees or imposing them where courses had previously been free. Rather belated and, at times, somewhat half-hearted efforts have been, and are being, made to redeem members of this “lost generation.” It is sincerely to be hoped that the lesson will be learned, and that facilities for technical and other forms of training will be extended rather than curtailed when the next depression arrives, if alive it must.

The Organisation of Technical Education in Australia

Even if space permitted, it would be out of the question to give a detailed account of each of the six State systems. A complete mastery of all details would require considerable intensive study. The difficulties are added to by the fact that while all sections of educational statistics in Australia are unsatisfactory, the section dealing with technical education is apt to be the least satisfactory of all. For example, one of the largest of the education departments can give the total enrolments in senior technical schools, but it has not so far analysed its information so that it can say how many of these are part-time and how many are full-time students.¹ We shall attempt to describe the chief forms which technical education takes and to indicate major variations as between the States. Special attention will be paid to New South Wales and Victoria. Being the chief manufacturing States, they naturally have the fullest provisions for technical instruction. It so happens that in certain important directions New South Wales and Victoria represent divergent lines of development, and that in varying degrees and combinations their methods have been adopted by the other States.

Perhaps one does not usually think of the universities as part of the technical scheme, but we shall find it necessary to refer to certain branches of their work and to relationships between the universities and the technical colleges. The technical colleges may be regarded as forming the backbone of the technical education system. It is their custom to provide diploma courses lasting, according to circumstance, from three to six years and reaching professional or semi-professional standard. In addition, there are trade courses and apprenticeship courses of a less advanced character. The majority of the students, particularly in the trade courses, are drawn from young people already occupying positions in industry. Finally, we shall have to consider the part played by junior technical schools and similar institutions. It would be possible so to define technical education as to include agricultural instruction as well, but this is scarcely within the limits of customary usage, even if it were practicable to extend this survey so as to cover it.

Technical Faculties at the Universities

The universities, with their courses in subjects such as mathematics, natural philosophy and chemistry, provide an essential background for research workers and leaders in the technical field. Certain departments, however, and particularly the various engineering schools, come even closer to the technical world. Table II indicates what the various universities possess in the way of such departments.

An interesting arrangement is found in Victoria for securing co-ordination between the technical colleges and the University. A Technical Schools Board is appointed by the University to inspect such technical colleges as wish to come under a scheme which provides that passes in certain diploma courses at the colleges entitle the student to receive recognition for corresponding subjects at the University. The arrangement applies at present to seven first-year subjects, two second-year subjects and one third-year subject.

In Sydney, the University agrees that students who have done certain courses at the Technical College may sit for the first-year examinations in those subjects at the University. There is no body corresponding to the Victorian Technical Schools Board. It has been suggested in recent years that the Sydney Technical College should grant its own degrees, but, instead of proceeding with this, the College Council is considering the possibility of securing bachelor degrees for those students who have satisfied matriculation requirements and have completed at the Technical College courses prescribed by the University for a degree.

In Perth there is an arrangement whereby the engineering diploma courses in mechanical, electrical or structural engineering at the Technical College entitle successful students to qualify for

corresponding University diplomas and to receive certain exemptions in the second year of the University degree course in engineering.

The University of Queensland provides that courses of study for the diploma in mechanical and electrical engineering may be followed in such technical colleges or institutions as may be approved by the University.

In South Australia and Tasmania we find the closest association between the University and the chief technical institution. The University of Adelaide and the Adelaide School of Mines and Industries have set up a Joint Board and have formed a Faculty of Applied Science by an arrangement between the Councils of the two institutions. When the necessary conditions, such as the possession of matriculation requirements, are fulfilled, students at the School of Mines may receive a University Diploma in Applied Science as well as a Fellowship of the School of Mines. The subjects concerned are mining, metallurgy, electrical engineering, mechanical engineering, civil engineering and architectural engineering. For a degree in engineering, studies are pursued to a further stage partly at the University and partly at the School of Mines.

The University of Tasmania makes provision for the affiliation of technical schools upon request of the Director of Education. Students who have completed successful courses at such affiliated schools may be exempted from corresponding subjects of a degree course at the University, except in the case of any subject included in the final examination for a degree. At present the University and the Hobart Technical College provide joint courses in chemistry and engineering, using the same staff and the same laboratory facilities. These arrangements are under the control of a joint Board of Management.

The Technical Colleges

Each of the States has one or more technical colleges forming part of the general educational system. In some States there is one central college in the capital city, with branch colleges in suburban or large provincial centres. In other States there are distinct colleges, one of them being recognised as the principal institution. New South Wales has, for some years, possessed several technical colleges in the country, but in the metropolitan area all technical colleges were, until recently, branches of the central institution which also housed the administrative headquarters for technical education. A few years ago the administration was placed in the hands of a superintendent of technical education, located at head office. This officer has general administrative duties as well. Victoria provides the chief example of a State with a number of strong separate colleges.

The Sydney Technical College follows, with minor exceptions,

TABLE II
TECHNICAL DEPARTMENTS IN AUSTRALIAN UNIVERSITIES

SUBJECTS	NEW SOUTH WALES 1937	VICTORIA 1938	QUEENSLAND	SOUTH AUSTRALIA 1	WESTERN AUSTRALIA	TASMANIA	NOTES
Architecture	Elements of Architectural Design	✓	✓	✓ ¹	✓	—	
Building Construction	✓	In Architect- ture Course	Small section in Engineer- ing Course	✓ ¹	Small section in Engineering Course	—	
Geology of Building Stones	—	In Architect- ture Course	—	—	—	—	The same material is dealt with, indirectly, by the Geology courses in other States
Civil Engineering	✓	✓	✓	✓ ¹	✓	—	
Electrical Engineering	✓	✓	✓	✓ ¹	✓	—	
Agricultural Engineering	✓	✓	✓	—	✓	—	
Engineering Design	With Drawing	✓	✓	✓ ¹	✓	—	
Hydraulic Engineering	—	Three parts in course	—	—	—	—	The other States have a less extensive course than the Victorian, called Hydraulics. It is usually a third-year subject, covers the work less intensively, and omits Hydro- electrics
Machine Design	—	✓	✓	✓ ¹	✓	—	
Mechanical Engineering	✓	✓	✓	✓ ¹	✓	—	
Metallography	✓	✓	✓	✓ ¹	—	—	
Metallurgical Design	—	✓	—	✓ ¹	—	—	
Metallurgy	✓	✓	—	✓ ¹	✓	—	
Mineralogy	With Assaying	✓	✓	✓ ¹	✓	—	
Mining Engineering	✓	✓	✓	✓ ¹	✓	—	
Mining Geology	✓	✓	✓	✓ ¹	✓	—	
Ore Dressing	✓	✓	✓	✓ ¹	—	—	
Petrology	✓	✓	✓	✓ ¹	✓	—	

the tradition that its courses should be supplementary to the learner's practical experience. Consequently its classes are available only to those actually engaged in the trade, or allied trades, for which the course is designed. Thus practically all its courses are held in the evening¹. There is evidence, however, that the technical authorities are seriously considering whether full-time day instruction should not be encouraged.

The following are the sections under which the school at present carries out its work. (a) Higher technical or diploma courses, (b) trades courses, (c) certificate courses, (d) independent classes, (e) correspondence courses. For the diploma courses the standard of admission is that required for entry to the corresponding faculty of the University. The minimum course of study is three years, the fees ranging from £4 in the first to £6 in the third year. In 1936, there were some 1,468 students doing diploma courses. Preparatory classes are provided for students in trade or other courses who wish to qualify for the diploma courses. Trade courses are of lower or higher standard, the former lasting for three years, the latter for an additional two. The lower courses are given at trades schools and the higher at the technical colleges. The certificate courses cover such subjects as agriculture, sheep and wool, commercial art, domestic science, surveying, meat inspectors' course, factory inspectors' course, local government clerks' course and laboratory assistants' course. Independent classes are provided in bacteriology, entomology, accountancy, shorthand, engine-driving and other subjects. Correspondence instruction is available in over fifty subjects for students out of reach of technical institutions. In 1937, there were 1,355 students taking advantage of these courses. An interesting development at the Sydney Technical College is the recent appointment of a vocational guidance and welfare officer.

In addition to the Sydney Technical College, with its seven branches in suburban areas, there are technical colleges at Newcastle, Broken Hill and Wollongong. The name "technical college" is now given to the institutions at nine other provincial centres which, until recently, were known as trade schools.

In Victoria, there are twenty-eight senior technical schools with a gross enrolment at present of 22,345 students. Of the senior technical schools, the Melbourne Technical College, the Ballarat School of Mines, the Bendigo School of Mines, the Gordon Institute of Technology at Geelong, the Swinburne Technical College and the Footscray Technical School (the two last named being situated in suburbs of Melbourne), stand out as the leading institutions by reason of their history and of the numbers of students doing day courses of an advanced character. Reference will be made later to the system of govern-

¹ One section of the College is, however, a full-time day commercial school. It should also be noted that in 1937 New South Wales established full-time pre-apprenticeship courses for pupils who have completed two years of secondary instruction.

ment of these schools. Unlike New South Wales, Victoria does not insist that employment in a given trade is a necessary prerequisite for enrolment in the appropriate course of instruction. The term "diploma course" in Victoria is limited to those courses which are given in the form of full-time day instruction.¹

The central institution is the Melbourne Technical College, which in 1937 had an enrolment of almost 9,000 students, for whom over 300 classes are now available. There are thirteen day diploma courses, with a total enrolment of 171 students. Over 100 additional students attend other day professional courses mainly in art and applied art. The diploma courses at the Melbourne Technical College are for the most part of four years' duration, with fees ranging from £4 10s to £6 10s per term (the diploma courses in most Victorian schools last for three years). In addition to the day diploma courses the Melbourne Technical College conducts evening certificate courses and special apprenticeship classes. There is a correspondence section dealing with 597 students. Of the total number of students, about 700 are women. This is a much smaller number than at the Sydney Technical College, but Victoria has a special institution, the Emily McPherson College of Domestic Economy, which ranks as a senior technical school and provides diploma and trade courses. Its enrolment is between 1,200 and 1,300 women students, together with a small number of men students.

It is interesting to note that technical education in Victoria owes much to private benefactions. The Melbourne Technical College (under the name of the Working Men's College) was founded in 1882 as the result of a gift by Francis Ormond of £5,000, who later bequeathed an additional £10,000. The Gordon Technical College at Geelong, and the Swinburne Technical College, were established largely as the result of endowments. The buildings for the Emily McPherson College were provided by Sir William McPherson from his own pocket shortly after his refusal as Treasurer of the State to provide the necessary funds from State revenues. Within the last few months there has been announced a gift of £20,000 from a private citizen to assist in establishing a school devoted to the food trades. It is anticipated that the school will provide instruction for 800 butchers, 250 bakers, 200 chefs and waiters and 100 pastrycooks. Although there has been some attempt to emphasise particular branches of work in the various technical schools, and though it is a deliberate policy to provide instruction for industries which are of local importance, the establishment of a school devoted entirely to a particular group of related trades will be a new departure so far as Australian technical education is concerned.

¹ It should be noted that though the Sydney diploma courses are evening courses, the entrance qualification is the University Leaving Certificate, whereas the entrance qualification for Victorian diploma courses is the Intermediate Technical School Certificate or its equivalent.

The Mining and Technical College of Adelaide is under the jurisdiction of its own Council and not of the Education Department. The principal Departmental school is the Technical High School at Thebarton. This school provides a wide curriculum, including language courses. It also has an interesting system of individual instruction.¹ The Adelaide Technical School now in course of construction will be confined to apprentices.

Perth Technical College tends to follow the New South Wales model of organisation (e.g. the technical system is administered from the College), but based its original courses of instruction on those of Victoria. It has an enrolment of almost 5,000 students, which is a large figure for a city with a population of only 212,000.

The Central Technical College at Brisbane has an enrolment of more than 5,000, of whom well over 500 are full-time students. The Queensland official reports do not make a clear demarcation between technical and high school work, or between technical work at lower and higher levels. It seems probable that a good many of those listed as full-time students are pupils of not more than 14 or 15 years of age.

Junior Schools

In each of the Australian States we find a variety of schools giving pre-vocational courses for pupils from 12 to 15 years of age. Details concerning these are given in the YEAR BOOK OF EDUCATION for 1937, pages 186-200. For our present purpose the most important group are the junior technical schools for boys and the domestic arts schools for girls. In the main, Australia adopts the policy advocated in the Hadow Report and establishes separate schools for pupils of these ages. This at least holds true for large centres of population. It must be noted, however, that the Australian authorities favour a break at 12 plus and not at 11 plus. It seems correct to say that Australia has given its main attention to the high school and the technical school without doing anything much towards evolving a school on the lines of the English "modern school". In this connection, however, it is interesting to note that Dr F. H. Spencer, on his recent visit to Australia, expressed the view that the Australian junior technical school was perhaps more like the English "modern" school than the English junior technical school. We shall discuss in a later section the rather vexed question of the control of junior technical education. We will here merely note the fact that in Victoria it is the policy to have a close association between junior and senior schools. Except at the Melbourne Technical College, the junior technical schools are housed in senior school buildings. They are definitely regarded as preparatory to the senior schools.

From the prospectus of a typical junior technical school we

¹ See *Individual Education*, by Fenner and Paull, A.C.E.R. Series No. 1, Melbourne University Press.

gather that the following are its aims (a) "to continue the general education of pupils of the sixth or higher grades, and to give them preparatory and pre-vocational training in science, art and trade, enabling them to continue profitably their senior technical studies in the day or evening classes, (b) to assist students by means of this training to determine the class of industrial and technical work for which they are best suited." At a later point the following significant passage occurs "If a cultural education means an education which cultivates, to the fullest extent, the latent powers of the pupil, so as to fit him to take his place as a self-respecting citizen in a community worthy of his membership, the unprejudiced visitor to the Junior Technical School will admit that it is giving a more truly cultural education than many institutions which make greater pretensions in this respect."

In Table III is shown the number of periods per week devoted in this particular school to the various groups of subjects.

Apart from the fact that the time which would be devoted to foreign languages is used for certain practical subjects, the timetable is much like that of an ordinary secondary school. There is certainly the basis for a good general education plus certain subjects of a pre-vocational character. It is a significant fact that Victorian junior technical schools, when established in good residential suburbs, have provided an attractive form of secondary education, and both parents and boys have appreciated the practical bias of the curriculum without any thought of specialising in the trades for which the associated senior school caters.

Space does not permit an adequate description of the provision made for girls. Many of the technical schools have classes for girls in the arts associated with home-making, and, to an increasing extent, in the trade and professional activities which women commonly enter. In other cases this instruction, especially that at an early level, is carried on in schools of domestic arts (or "girls' schools," as they are now rather inadequately labelled in Victoria), which are attended by girls alone and are placed under the supervision of women principals.

Before completing our description of the types of institution giving technical education, mention should be made of the fact that New South Wales is experimenting with the problem of providing technical instruction in rural districts by the use of a mobile workshop. Two railway carriages have been specially fitted up and placed in the care of a competent teacher of engineering. Four country centres were to be served experimentally in 1938. If the scheme is successful, additional units are likely to be established.

Some Financial Problems

Dr F H Spencer, formerly Chief Inspector of the London County Council, who visited Australia recently at the request of the Carnegie Corporation to examine the technical education

TABLE III
COURSE OF STUDY IN A JUNIOR TECHNICAL SCHOOL

FIRST YEAR AVERAGE ENTRANCE AGE, 12 YEARS			SECOND YEAR AVERAGE ENTRANCE AGE, 13 YEARS		
GROUP	SUBJECTS	PERIODS	GROUP	SUBJECTS	PERIODS
English	English Geography History and Civics	10	English	English Geography History and Civics	10
Mathematics	Arithmetic Mensuration Algebra	8	Mathematics	Arithmetic Mensuration Algebra-Geometry	8
Science	Elementary Science	4	Science	Physics, Chemistry, Electricity and Magnetism	5
Art	Free Drawing Modelling Geometrical Drawing	7	Art	Free Drawing Modelling	4
Practical Work	Woodwork Sheet metal Work	8	Instrumental Drawing	Solid Geometry Instrumental Drawing	4
School Activities	Sport, Singing, Physical Drill, Assemblies, Hobbies, Visits to Places of Interest	4	Practical Work	Woodwork Sheet metal Work Machine Shop Engineering	6
			School Activities	Sport, Singing, Physical Drill, Assemblies, Hobbies, Visits to Places of Interest	4
TOTAL PERIODS OF 40 MINUTES EACH, 41			TOTAL PERIODS OF 40 MINUTES EACH, 41		

THIRD YEAR AVERAGE ENTRANCE AGE, 14 YEARS		
GROUP	SUBJECTS	PERIODS
English	English Economics	5
Mathematics	Algebra Geometry Trigonometry	8
Science	Physics, Chemistry, Electricity and Magnetism	8
Instrumental Drawing	Solid Geometry, Engineering Drawing or Building Drawing	6
Practical Work	Carpentry or Plumbing or Cabinet making or Machine Shop Engineering or Applied Art	10
School Activities	Sport, Singing, Physical Drill, Assemblies, Hobbies	4
TOTAL PERIODS OF 40 MINUTES EACH, 41		

system, had previously made similar surveys in Canada and South Africa. He was therefore in an excellent position for making comparisons. While on the whole he was favourably impressed by the quality of the work he saw, he was at times appalled by the conditions under which that work has to be carried out. Although some States are in a worse plight than others, he considers that in

no State do the buildings approach a really satisfactory state of affairs. In many instances equipment is quite inadequate.

The rapid growth of technical enrolments following on the complete cessation of building during the depression has created a very serious problem for the States. During recent years many hundreds have been denied admission to technical schools because of lack of accommodation.

TABLE IV
EXPENDITURE ON TECHNICAL EDUCATION IN
NEW SOUTH WALES

YEAR	TOTAL		COST PER HEAD					
	INCLUDING BUILDING	EXCLUDING BUILDING	EXCLUDING BUILDING			INCLUDING BUILDING		
	£	£	£	s	d	£	s	d
1914	67,118	72,718	7	7	9	8	0	1
1920	211,986	214,654	22	17	11	23	3	8
1932	155,118	158,654	9	19	6	10	4	0
1936	187,134	238,934	8	15	2	11	3	8
1937	246,821	450,376	9	8	6	17	3	11

The figures shown in Table IV were made available for New South Wales through the courtesy of the Superintendent of Technical Education. They are very illuminating. In 1914, there were only 9,082 students in technical institutions, in 1937, there were 26,188. The effect of the depression is clearly seen in the figures for 1932. In spite of a rapid rise in building costs in 1937, the *per capita* expenditure of 1920 is still far from having been reached.¹ It is estimated that almost £1,000,000 will be required in the next few years to provide the requisite accommodation.

The States claim that they cannot adequately meet the costs of education and of other social services from the revenues available to them. A strong effort was made in 1936 by the States to obtain a substantial grant from the Commonwealth Government for the specific purpose of aiding technical education. This request was not granted, and the problem is as yet unsolved. It would not be at all surprising if the Federal Government eventually finds it necessary to assist technical education. This has already happened in the United States and in South Africa.

In recent years there has been an increase in public awareness of the necessity for greatly extended facilities for technical training if Australia is to enter the field of secondary industries with any hope of meeting present-day conditions. A leading article, published in *The Australasian Manufacturer* for December 1935, made a vigorous attack on the starved condition of technical education in the manufacturing States. It quotes the general

¹ During the years 1920-2 expenditure was augmented by grants from the Federal Government for the training of returned soldiers.

manager of the Broken Hill Pty Ltd as stating that in his opinion Australia was twenty years behind Japan in its work of technically educating the younger generation of its artisans. The article speaks of Melbourne's technical schools as being shockingly overcrowded, and maintains that technical education in New South Wales has been allowed to become the Cinderella Department of the public service of the State. There has certainly been some progress in all parts of the Commonwealth since this was written, but there is undoubtedly a great deal of leeway still to make up.

Some Administrative Problems

Enough has been written to indicate that there are considerable variations and complications in the administration of technical education. It would appear to the outsider that many compromises have been made both with tradition and with local circumstances.

The Problem of Staffing

Of special interest is the system of control in Victoria where we have in the technical colleges the only marked exception to the centralisation of education which characterises each of the Australian States. The five colleges named in an earlier section, together with eight smaller technical schools, mainly in the country, were strongly established before the Education Department took over the control of technical education in 1890, and though they are now subject in certain respects to Departmental regulation, they have retained many of their rights. For example, they grant their own certificates and diplomas as distinct from those awarded by the Education Department. They establish new courses and modify existing ones, they determine the fees to be charged to students (subject to a minimum scale laid down by the Department) and have control not only of these fees but of the grant made annually by the Government. Perhaps more important still is their right to appoint members of the teaching staff. In making these appointments they are not limited in any way to persons already employed by the Education Department. They may select the best man available from any part of the country, or even from abroad, and some of the positions they have to offer become the subject of keen competition. The foregoing rights are subject to ministerial approval, which, however, is rarely withheld.

However, the situation with respect to teaching staff in these schools is much more complex than has so far been indicated. In addition to the appointees of the school Councils there are in Council schools a number of teachers appointed by the Education Department. Even in the technical schools controlled by the Department the teachers fall into two groups, since some of them are classified as secondary teachers, whereas others fall under the jurisdiction of the technical branch of the Department, and not the secondary branch. Thus in the technical school system there

are teachers owing allegiance to three different masters. The two classes of departmental teachers have this in common—that they have the right of appeal to the Public Service Commissioner. Thus, while the College Councils make their appointments without reference to any other body and without any fear that their nominations will be upset, the Superintendent of Technical Education may find that a teacher whom he has passed over in making his nomination has won an appeal on the grounds of seniority and has received the appointment. Another cause of possible friction is that the salaries paid by the Councils may not coincide exactly with those paid by the Department for similar work.

It is little wonder that the Superintendent of Technical Education complains in outspoken terms in his official reports of the difficulty of administering the system. The wonder is that it works at all! There is surely no other example in the world of school staffs being under such a form of triple control. Any student of education who agrees, as most external critics do, that Australian education is over-centralised will hope that the reorganisation which surely must come will leave unimpaired the element of local control represented in the Technical School Councils. There is no doubt that they have done excellent work.

The Junior Technical System of Victoria

On the administrative side the Victorian system of junior technical education calls for special comment. As already indicated, the policy is to link the junior technical schools with senior technical institutions. The junior technical section, which caters in the main for boys still under the compulsory attendance clause, is placed under a "headmaster," while the senior school is under a technical "principal," who also has responsibility for the institution as a whole. It is the policy of the present technical school administration to ensure as far as possible that the principal, in addition to his other qualifications, is a man who has had practical experience in industry. The chief inspector of technical schools recently returned from a visit to a number of other countries and claims that what he saw there confirms the wisdom of this policy and of the maintenance of a close link between senior and junior instruction.¹

The writer has suggested in earlier sections what he thinks are certain principles which should regulate the problems arising in connection with education for pupils below 14 or 15 years. There are still certain pros and cons to be dealt with in this matter of the junior technical school. One of the advantages of close association with a senior school is that it is not difficult to make available equipment and machinery which is more than adequate to the requirements of the junior school. Again, the contact which the pupils have with the work of the senior school

¹ E. P. Eltham, *Report on Technical Education Systems in Other Countries*

is almost certain to lead many of them to continue their studies when they have finished the work of the junior school. The technical authorities can more readily plan courses in the junior school which dovetail neatly into the more advanced work.

On the other side the use of a common staff and buildings has some practical disadvantages. One principal, for instance, states that it gives rise to difficulties in the cleaning of rooms and care of equipment, and that it makes it impossible to have the whole school staff present on any day in the week because of the time off allowed to those who have evening duties. Another principal maintains that equipment suitable for senior students is not suitable for junior, and that, in a large college at least, common housing creates a wrong atmosphere for both groups. Of course, the most important issues by far are those connected with an early segregation into separate institutions. The writer at least finds it difficult to reconcile a belief in the wisdom of providing a liberal education for all pupils up to 14 or 15 years with the practice of drafting certain pupils into junior technical establishments at the age of 11 or 12 years, especially if these schools are "tied" closely to senior institutions of a vocational character. The steadily increasing use of apprenticeship may well be an argument against the too early introduction of technical instruction. It appears that there is a tendency for an apprentice in his first year to be required to duplicate work already covered in the junior technical school. The departmental justification given for this is that the principles already taught should be revised, with more specific applications to the trade in question.

A serious administrative problem in all States is the large proportion of pupils who fail to complete courses which extend from 12 to 15 years of age. Some two-thirds of the pupils leave junior technical schools at the end of their second year. The raising of the school-leaving age to 15 is probably the only solution.

Official Opinion on Junior Technical School Problems

As a check on his own views, and as some indication of the direction which future policy may take, the writer sought the opinions of leading administrative officials in each State on four questions relating to the position of the junior technical school. Of the nine persons replying, four are concerned with general administration and five with the technical school system.

The first question was an attempt to find out whether any of those approached shared the writer's preference for a common educational institution up to 14 or 15 years, or whether they favoured a continuation of the current system of segregation into a separate junior technical school at 12 years of age. Only two of the nine, both of them being connected with general education, showed a theoretical preference for a common type of

post-primary institution. Both of these appear to be prepared to accept the present position in the case of large centres of population. Another correspondent emphasised strongly the view that education from 12 to 14 years should be of an exploratory nature, and mentioned the danger of the vocational aspects being over-emphasised. He considers it immaterial, however, whether or not the "try-out" courses are given in a separate institution. A correspondent from one State where separate junior technical schools are not well developed considers that the more general type of institution falls short in vutility and individuality. It may well be that an atmosphere of purposiveness is more readily achieved in a school where all pupils are looking towards similar vocational objectives.

The second question related to the problem as to whether junior and senior technical institutions should be housed in the same building. Opinion here is fairly evenly divided. Three definitely prefer schools which are separate. Two others can see some advantages in close association, but seem to think that on the whole the arguments are in favour of separate institutions. One of these, whose work lies in the technical field, thinks that in practice the junior and senior schools tend to keep apart, and is doubtful of the practical value from the staffing point of view of being able to use some of the teachers for both senior and junior work. Two correspondents are emphatically in favour of having the two schools together, though one of these joins with several others in claiming that it is undesirable to have a junior section associated with a central technical college. Of the remaining two correspondents, one thinks it is desirable to have junior and senior schools together, though it is not always practicable, and the other thinks that certain advantages in having them associated are offset by the danger that the course in the earlier years may become too definitely vocational. He says, for example, that the technical bias given to mathematics and science may lead to the mere use of formulæ in order to obtain a particular result.

The third question dealt with the recruitment of teaching staff for technical schools. Here the general opinion is that teachers of non-technical subjects should be drawn from the teaching service as a whole, and that teachers of trade and technical subjects should be drawn from industry, or should at least have had some first-hand contact with industry. Several replies emphasised the view that such practical experience, especially for senior work, was an important factor in investing the teacher with proper prestige in the eyes of the pupils. In two cases special mention was made of the desirability of providing training in teaching methods for those drawn from industry. One correspondent considers that the ideal teacher in the junior technical school would be the graduate of a technical department of a university who had received at least a year's training in the teaching of mathematics, science, social studies and aesthetics.

The final question inquired whether junior technical schools should, for administrative purposes, come under the general control of the branch dealing with post-primary education or under the technical branch. Four of the nine replies were unambiguously in favour of technical control, one of the four being from a general administrator. Two of the non-technical correspondents definitely favour control as part of the general post-primary scheme of education. Three of the correspondents, two of them being technical school administrators, are not able to make up their minds. One of them says, "It is possible for junior technical education, under the control of a too grossly practical industrialism, to lose some of its best values as a general secondary education. It is even more likely that junior technical schools, under the administrative guidance of men with grammar school ideals, will lose most of the things that are so precious in their character." Three of the correspondents emphasised the desirability of joint inspection by the technical and general branches of the Department.

From the foregoing it will be seen that marked differences of opinion are to be found amongst those who hold responsible positions in Australian education. We may conclude this section by quoting the remark of one correspondent to the effect that "educational interests rather than technical training interests should be the determining factors in all matters relating to junior technical schools."

The Problem of Apprenticeship

It is only in recent years that any account of technical education in Australia would have to take serious notice of the apprenticeship system. Indeed, apprenticeship during the post-War period appeared to be dying out almost entirely. The last four or five years have, however, seen a distinct revival, and each State reports increasing use of apprenticeship as a method of training workers in particular industries.

One of the first steps in this revival was the passing of the Technical Education of Apprentices Act in South Australia in 1917. Since that date all of the States have passed Acts setting up machinery for the control of apprenticeship. We must be content with a generalised account of this machinery and its operation.

Most of the States have set up a special board to act as an authority for registering apprentices, for proclaiming trades to which the system shall apply, and for establishing the conditions under which apprentices shall be employed. For each industry there is usually some advisory or executive body consisting of representatives of employers and employees. This body has duties, such as the determination of the length of training, ratio of apprentices to adult workers, the wages to be paid each year, and so on. Compulsory apprenticeship has been introduced

gradually, commencing, perhaps, with one or two trades only. Additional occupations are proclaimed from time to time when the employers and employees concerned are agreed that the step should be taken. Cancellation of indentures is subject to approval of the proper authorities. No premium is paid by the apprentice. The employer to whom he is indentured may, on the other hand, be released from his obligations if he can show proper cause, such as financial embarrassment. It may well be doubted whether, after the experience of the recent depression, apprenticeship would have been rehabilitated at all without some such provision. With the exception of the building trades in two of the States, apprenticeship is to the individual employer and not to some controlling body.

New South Wales, in addition to the regular indentured apprenticeships, has a "trainee" system under which the employer does not engage to instruct the apprentice or to employ him for any definite length of time. Only registered persons can employ such trainees. At present the method is applied in sixteen trades. The trainee takes with him to any new job a card showing the details of his previous employment. He receives wages 15 per cent above those of the indentured apprentice as a *quid pro quo* for loss of security of employment. Provision is made for attendance in the employee's time at technical classes if available. The employer pays the fees for this instruction, but the trainee loses his extra wages if he does not obtain 75 per cent of possible attendances at such classes. Either party can give a week's notice of termination of employment. Indentured apprentices outnumber trainee apprentices, and about 50 per cent of those who start as trainees transfer to the other system.

From our point of view, the most important feature of apprenticeship in Australia is the provision for compulsory attendance at technical classes. Provision is normally made for attendance in the employer's time without loss of salary. The chief exception is New South Wales, where evening instruction is the regular thing, though even here there are two trades in which day-training is compulsory. In Victoria, there is compulsory attendance by apprentices in the thirteen trades so far proclaimed for four hours each week in the employer's time and for two evenings of four hours each in the apprentice's time. Queensland provides in most trades for four hours' instruction per fortnight in the employer's time, and a similar amount in the employee's time. In South Australia, the time during which instruction is to be obtained may be up to one half-day a week in the daytime and one evening a week, the total time not exceeding six hours in all. In Tasmania, if instruction is available, apprentices attend classes for two afternoons a week. Western Australia also provides for instruction in the employer's time for periods up to four hours per week without any compulsory attendance in the evenings.

The requirements indicated in the foregoing section apply in some cases to not more than three out of the five years during

which apprenticeship lasts. It will be seen, nevertheless, that Australia has now gone some distance in the establishment of the principle of compulsory day training for apprentices. As things are going it may not be many years before one half-day's schooling a week is required of all young persons in industry. It should also be noted that apprenticeship promises to provide a way out of the too rigid application of the principle of an adult wage which operates harshly against those whose absorption into industry is delayed, either through some individual reason, or through the occurrence of a depression. Although there are some age qualifications attached to apprenticeship conditions in certain States, apprenticeship is typically placed on an experience rather than an age basis, thus overriding the operation of the minimum adult-wage laws.

The revival of apprenticeship in the form already described does not suggest that Australia is likely in the near future to adopt the policy of full-time instruction in trade schools with a curtailment of the apprenticeship period. One of the correspondents with technical school responsibilities whose views are quoted earlier favours such a plan if suitable trade schools with a definite connection with industry are established. He considers that trade-training under such circumstances would be more efficient than ordinary apprenticeship. Such a scheme appeals to the general educationist partly because it might help to postpone specialisation and facilitate transfers, and partly because young people would remain for a greater length of time under general educational influences.

K. S. CUNNINGHAM

CHAPTER EIGHT

TECHNICAL EDUCATION IN SOUTH AFRICA

Social and Economic Conditions

(See also YEAR BOOK, 1932, pages 627-61, 1933, pages 601-24, 1934, pages 334-49, 1935, pages 285-312, 1936, pages 644-72, 1937, pages 201-18, 1938, pages 199-224)

THE development of technical and vocational education in South Africa is a reflection of the country's social and political conditions. In comparison with other types the history of this type of education is recent and its growth has been very rapid.

As a Protestant country the people always believed in education, and they were willing to pay for it, not individually so much, but through State funds. For example, the amount that the State spends on ordinary primary and secondary education in South Africa per pupil (£22) is about twice as much as in the other Dominions and Great Britain. Also, probably we keep our pupils longer at school. But the type of education the people believed in was *book* education. It was education of the academic type which, if pursued long enough, would lead to the university and the professions. It had very little to do with the work of the world, i.e. the work one does with one's hands. Several factors have contributed to this situation. We shall mention a few.

In the first place, we have here to deal with a white population of two millions living amongst seven and a half million non-Europeans. The whites are the ruling class both politically and economically. Blacks (though, of course, not *all* of them) are in the employ of whites. The reverse is hardly ever the case. In fact, the few cases where whites are employed by non-whites are taboo and are viewed with apprehension by the white population in general.

In the second place, our population is mostly a *farming* population¹. We do not have an artisan tradition to the same extent as the industrial countries of Europe. During the patriarchal period, dating from the time of slavery, our farming was chiefly pastoral, and there was very little work for the farmer and his sons to do, except to superintend the numerous inefficient natives. Practically all manual work was regarded as menial and designated "kafir work". The white man was, therefore, not habituated to this form of work, and often had the idea that it was degrading. This attitude, however, even in the poor white, is purely a habit and not inborn, as is evidenced by the fact that the

¹ I found in 1930, as the result of a survey of what became of 62,000 white boys after they had left school, that 47 per cent went into farming. See the YEAR BOOK OF EDUCATION, 1936, page 664.

white man to-day, when circumstances demand it, will do any kind of work, and is not averse to or incapable of doing manual work if the stimulus is specific enough.

The results of the last economic depression proved this. Many men who might have been lazy on the land have proved themselves quite industrious workers both in the unskilled as well as in the skilled field, when the opportunity of such work presented itself. The gold-mines, which are providing ever-increasing opportunities of employment to the redundant workers on the land, offer a type of work which is very acceptable to the average white man's pattern of thought, because the work is mostly that of being a "boss," whose main work consists in superintending the native (i.e. African) mine worker who actually handles the drill and does the pick-and-shovel work.

How this pattern of thought operates can best be illustrated by a concrete example. In a public examination some years ago in Natal, a schoolboy in a science paper was asked in a question on the principles of the *lever* to show how he would make use of a crowbar to move a rock on the roadside. After explaining how he would adjust the fulcrum so as to get an adequate leverage, he added, "and then I would get a native at the other end of the bar to lift the rock."

This and many other illustrations could be given to show that, in spite of recent developments, the mental attitude persists by which we regard ourselves as a white aristocracy on a big black foundation of natives. In many cases the native stands, as it were, between the white man and manual labour. To many white men the native is merely the elongation of a crowbar!

Beginnings of Industrial Education for Natives

In this connection it might be interesting to note that, while a beginning was made with vocational and technical education for *whites* only towards the very end of the nineteenth century, an elaborate system of industrial education had been started for *Natives* and Coloured as early as 1855. As a result of the influence of Sir George Grey, then Governor of the Cape Colony, considerable sums of money (amounting to £46,000 during the years 1855-61) were made available for developing the training of natives in trades (carpenters, tailors, masons, shoemakers, etc.) as well as in agriculture. The amount of money that was spent annually in those days for this particular type of training for natives was almost as much as the sum the State spent per annum for those years on all types of education for whites. Though the amount of the grant in course of time dwindled and the facilities with it, the whole idea of industrial training of natives fitted in very well with the prevalent conception in the popular mind as to the justification of mission enterprise amongst the natives. Teach them the Bible and teach them to work. These are the only things necessary in native education. That was the prevailing idea. The irony of the situa-

tion, however, lies in the fact that no sooner did the native artisan become a competitor of the white man than the latter put up a colour-bar which prevents the native from practising his trade in certain European areas where the competition might prove uncomfortable to the white artisan. The native is, of course, free to ply his trade amongst his own people and in the native territories. But there the market for his products is strictly limited. For this reason we find that industrial education amongst the natives is in a languishing state and subordinate to book education. Of the two, the native also prefers the latter.

Early Opposition of Whites to Industrial Training

If one studies the history of education in South Africa, one finds that early efforts, e.g. round about 1880, on the part of the Education Department to introduce industrial training into the European schools were met with opposition. "I found," wrote the Superintendent-General of Education in 1879, "a disposition on the part of the farmers to be rather indignant at their children being taught industrially. They did not see why their boys should go into a carpenter's shop or a blacksmith's shop every afternoon."

One reason was to be found in the fact that the industrial work was optional and, as many of the lads from the rural areas were of advanced age and could attend school only for a very limited time, they preferred devoting themselves to the acquisition of reading, writing and arithmetic, in which they were often sadly deficient. The success of the industrial department, like most other things, depended in those days upon the influence of the school principal. In some schools, therefore, they managed to make their own furniture and gave the boys a practical education which found favour amongst the farming population.

In the old Colonial days the artisans were chiefly Malays (who were imported under the Dutch East India régime) and coloured men who still form an appreciable part of the Cape Province artisan population. The Europeans were "bosses" or belonged to the professional and merchant, landowning and farmer class. As was said by an old member of the Cape House of Assembly, "we are all aristocrats." Bricklaying, plastering, painting and decorating, engine-cleaning (the first step towards employment as locomotive-driver) and much other trade work now done by Europeans were considered fit for coloured men and overseas workers, but not for the colonial born, who, if not belonging to the professional classes, perhaps not unnaturally preferred a more adventurous career, such as transport-riding.

The Two Traditions

(a) Industrial Education

Underlying all education of a "practical" nature, such as industrial, vocational and technical education, in this country there

are to be found two traditions, two main motives which worked in two different directions and sometimes conflicted

In this discussion of technical education it is essential to keep these two traditions separate. Technical education had had quite a different origin and motive all along from that of industrial education in this country. The former developed directly out of the needs of the industry itself and carried with it the British and Continental tradition of a highly skilled European artisan.

Industrial education was born out of poverty, misery, depressions, wars and epidemics. As education it was conceived suitable for the destitute, the delinquent and the defective. The motive was social salvage, and the Church, particularly the Dutch Reformed Church, generally took the initiative. In 1893, the Cape House of Assembly was prevailed upon to agree that there should be schools for poor whites in which manual should take precedence over intellectual instruction. Regulations passed in the same year provided that "grants similar to those hitherto made to native industrial institutions will be available for similar institutions founded for the training of indigent and neglected white children."

The industrial schools which were established as a result of these provisions were not sponsored by the industries nor in any direct way connected with them. In true Pestalozzian sense these schools were conceived in charity and with the idea of redemption. The instructors were on the whole more well-intentioned and religious people than competent technicians. The idea was to turn out skilled workers—carpenters, masons, shoemakers, etc. Most of the products of these schools were, however, nothing more than mere handy-men and did not rise much above a subsistence level.

At first only the poor were taken into these schools. The association with the Department of Prisons for some time, and the fact that children committed under the Children's Protection Act were placed in industrial schools, created an additional stigma of deficiency and delinquency which spelled inferiority from beginning to end—something which industrial education has not been able to shake off, even to this day.

The Union Education Department has, however, in latter years, by means of its trades schools and agricultural schools, done much to make vocational education respectable.

If one wades through the many addresses and reports delivered on the question of vocational education, one comes across the proverb "Arbeid Adelt" (work is honourable) often enough, but it was generally used with reference to the poor whites. It was never applied to richer folk. There seems always to be the mental reservation "Work is honourable for the poor, but dishonourable for the well-to-do." This was the net result in the end, because if there were any among the latter who desired vocational or industrial education, they were discouraged by being classed with the destitute, the defective and the delinquent.

This charity tradition was doubly unfortunate (1) It was bad

for education and prevented it from developing and keeping pace with economic needs (2) It was bad for industry How could we expect our trades and industries to be efficient and flourish if we kept on turning the weak and the maimed into the vocational field and the strong and the healthy (mentally and morally) into the field where learning is supposed to be pursued for learning's sake?

Such a tradition could not but have had a weakening effect upon the nation's trades and industries and ultimately upon their absorbing power of all grades of work

The tragic thing to-day is that many boys and girls are trained at these industrial and vocational schools, and when they are finished, they cannot find work We have tried to find out what became of the 1,118 boys and girls who left the Union Department's industrial, trades and agricultural schools during 1931 fully trained in various occupations The results show that out of the industrial schools 37 per cent were working in the occupation they were trained for, 30 per cent were working in some other occupation and 33 per cent were without work The vocational (i.e. trades, agricultural, housecraft) schools show a better result, because to the industrial schools are sent all the children who are committed under the Children's Protection Act, and they are therefore under a handicap In these schools 53 per cent work in the job they were trained for, 17 per cent in other jobs and 30 per cent have no work

The fact that organised industry gives very little recognition for the training afforded by these schools makes the placing of trained boys a difficult matter The reason put forward for this is that the type of training afforded is not the type required in big industries, where machines have largely taken the place of the hand craftsman Though one would be inclined to think that a boy trained as a cabinet maker or as a carpenter should have an advantage, e.g. in a furniture factory, over the ordinary apprentice who has to start *de novo* In any case, a much closer and more sympathetic relationship between organised industry and vocational educational agencies should be built up We shall return to this point when discussing the Apprenticeship Act

(b) Technical Education

The origin and motivation of technical education were different It was born out of a frank recognition of the increasing industrialisation and commercialisation of South Africa In the effort to meet these needs technical education has largely escaped the stigma of poverty and inferiority which has been associated with vocational and industrial education It is fee-paying and not free Its students stand on their own feet It has accordingly developed into a much more flourishing branch of the educational system—if numbers afford a criterion

Let us briefly sketch its growth from the early provision for the training of mining engineers to the present-day system of eight

technical colleges with over 24,000 students, not to mention the engineering faculties at two universities

Until the discovery of the diamond mines in Kimberley in 1871, South Africa could lay little claim to be regarded as an industrial country, the only workshops in existence being those attached to the Cape Government railways. A commencement was made with the training of youths in these railway workshops at Uitenhage, East London and Salt River round about 1895. For years after the opening of the diamond fields, mining operations were carried on in a somewhat primitive fashion, with practically no need for much in the nature of high scientific or technical training. Such engineers as were required were brought from overseas, and South African parents had not then seriously considered the professions of engineering and mining as promising spheres of employment for their sons. But the discovery of gold and the rapid development of the Rand, combined with the tendency to overcrowding of the legal, medical, surveying and other professions, served to focus attention on this subject. Many graduates in pure science of the South African College were successful in securing lucrative positions on the staffs of the gold-mining companies, and the advantages of a mining career began to be recognised.

It was only in 1894 that the Government of the Cape of Good Hope agreed to a scheme for the training of mining engineers in South Africa. The first two years of theoretical training were given at the University of Capetown (then the S. A. College) and the subsequent practical training at the S. A. School of Mines, which was established at Kimberley. After the Anglo-Boer War, in 1903, this latter institution was shifted to Johannesburg, which was then already a rapidly growing gold-mining centre. It was then known as the Transvaal Technical Institute, but was renamed the School of Mines and Technology in 1910. Gradually it developed other departments of Arts and Science, and eventually, in 1922, blossomed forth as the University of the Witwatersrand. Both this institution and the University of Capetown have efficient faculties of engineering which supply this country, as well as those parts of Africa north of the Union, with engineers.

Industrial Development in South Africa

The two chief industries (apart from agriculture, of course) in South Africa are the railways and the mines (chiefly the gold-mines). Their growth and their demands upon technical education may be gauged from the figures on page 671.

All these figures show, in the first place, how relatively young South Africa is as an industrial country, and in the second place, the phenomenal growth during the last twenty-five years.

Of course, the biggest single industry is that of the gold-mines. About 88 per cent of the mineral production listed in Table 2 is gold. The gold-mines give direct employment to nearly 400,000

TABLE 1
STATE RAILWAYS IN SOUTH AFRICA

YEAR	OPEN MILEAGE	NUMBER OF EUROPEANS EMPLOYED	TOTAL REVENUE
1891	2,300	—	—
1911	7,500	—	£12,000,000
1921	9,600	30,000	£20,000,000
1931	11,000	49,000	£24,000,000
1936	13,000	52,000	£30,000,000

TABLE 2
INDUSTRIAL PRODUCTION IN SOUTH AFRICA

	MINING VALUE OF MINERAL PRODUCTION	GROSS FACTORY OUTPUT IN £1,000's
1891	£6,607,000	—
1911	£31,383,000	£17,249,000
1921	£57,582,000	£98,308,000
1931	£82,028,000	£111,799,000 (1929-30)
1936	£66,270,000	£131,332,000 (1934-35)

TABLE 3
TOTAL WAGES OF EUROPEANS EMPLOYED IN SOUTH AFRICAN FACTORIES

	NUMBER OF EUROPEANS EMPLOYED	TOTAL WAGE*
1911	21,000	£3,000,000 est
1921-22	60,000	£15,000,000
1929-30	91,000	£21,000,000
1934-35	116,000	£24,000,000

persons, of whom about 40,000 are Europeans. The total amount paid out in wages is about £26,000,000 per annum. Most other industries, like the railways, for example, which have been about doubled during the last twenty-five years, owe their rapid growth partly to the development of the mining industry.

The most rapid expansion is, however, noticeable in factories, the gross output of which grew from £17 millions to £131 millions during the last twenty-five years. Whereas in 1911, shortly after the Union was formed, only 21,000 European workers were engaged in factory production, the figure to-day stands at about 120,000. This is probably the most significant single fact regarding industrial development which must be considered when discussing technical education in South Africa.

Not only has there been this rapid increase in the number employed on the railways, the mines and in factories, but the constitution of this increasing working population changed entirely during the last twenty-five years. Whereas in early days the men imported from overseas were dominant, to-day, the vast majority of white men employed in these industries are South African born—the proportion being probably round about 90 per cent.

The figures in Table 4 show more eloquently than words the increased demand on technical education in order to keep pace with this new industrial development.

TABLE 4
GROWTH OF TECHNICAL AND VOCATIONAL
EDUCATION IN SOUTH AFRICA

YEAR	TOTAL NUMBER OF STUDENTS RECEIVING TECHNICAL AND VOCATIONAL EDUCATION ¹
1911	500
1920	3,000
1925	12,000
1929	28,000
1933	30,000
1937	37,000

¹ These figures include all types of vocational education, also students in agricultural and housecraft schools (the latter amounted to 194 and 716 respectively in 1937), part-time technical college students (19,000 in 1937), those attending continuation classes (2,500 in 1937) and those attending certified and state-aided vocational schools (6,500 in 1937).

The Establishment of the Technical Colleges

As a result of all this activity, several institutions grew up in different parts of the country.

Before we deal with these we must mention two Government Acts which profoundly influenced technical education in South Africa (1) *The Apprenticeship Act of 1922*, which provided for the regulation of apprenticeship involving compulsory attendance at technical classes, and (2) *The Higher Education Act of 1923*, which brought the institutions for technical training under the Union Education Department and provided for their development as technical colleges.

As early as 1912, a National Advisory Board to deal with technical (and commercial) education was set up, and at the beginning of 1914 an Adviser on Technical Education was appointed. In the first report, issued in 1915, a national scheme of technical education and examinations was outlined. Little of an effective nature was, however, accomplished, partly because of a lack of insight into the country's real educational needs by those responsible, but largely because of the Great War and its aftermath. The passing of the Higher Education Act of 1923 was the starting-point of great developments. Prior to that these institutions fell under the jurisdiction of the provincial administrations who were responsible for education—

other-than-higher. They did not, however, have the financial resources to provide adequately for the growth of this new (and expensive) type of education. They were interested mainly in providing book education.

The first two institutions which were incorporated under the new Act of 1923 were the Durban Technical Institute, which was founded in 1907, and the Cape Technical Institute, founded in 1922 to take over the work of the Salt River Technical Institute and the evening classes of the University of Capetown (S.A. College). The Port Elizabeth Technical College was incorporated in 1925, the Witwatersrand, Pretoria, East London and Pietermaritzburg Technical Colleges in 1926 and the O.F.S. Technical College, Bloemfontein, in 1931.

In all cases, the technical colleges have been developed from part-time classes formed for apprentices and commercial employees.

The number of students in each of these institutions as well as the types of training which each is offering is indicated in the table on page 674.

As will be seen from the above table, the eight technical colleges differ considerably in size and complexity of organisation. By far the largest institution is the Witwatersrand Technical College, with over 11,000 students, not counting the 9,000 who receive instruction by correspondence. It comprises a central technical college, a training department for domestic science teachers, a school of arts and crafts, a school of aeronautics, an important mining department, commercial high schools, trades schools and branch technical colleges along the Rand. Recently a Department of Physical Education has been started and the College has embarked upon a 3-year post-matriculation course of training for nursery school teachers. At the other end of the scale we have the small institutions like Bloemfontein, Pietermaritzburg, Port Elizabeth and East London, which have a very simple constitution and cater mostly for commercial students. Capetown, Durban and Pretoria lie in between—the last-mentioned having the largest technical department after the Witwatersrand Technical College.

Types of Training Offered

If one studies the trend of development in these technical colleges over the last seven years, one notices that there has been a sharp rise in the enrolment of *technical* students, both full-time and part-time. In 1931, there were about 900, and in 1937, over 2,000 full-time technical students. The part-time numbers in this same period rose from about 7,000 to over 10,000. In contrast with this the numbers in the *commercial departments* have remained more or less constant. The number of "preparatory" students, who are all part-time, have been about halved. And there has also been a considerable drop in the part-time domestic science students—though the full-time ones have remained more or less constant.

If one studies the "Total" column in Table 5, one will get some

TABLE 5—FULL-TIME AND PART-TIME TECHNICAL COLLEGE STUDENTS CLASSIFIED FOR EACH INSTITUTION ACCORDING TO TYPE OF TRAINING—1937

	CAPES TECH NICAL COL LEGE 1	EAST LONDON TECHNICAL COLLEGE	FREE STATE TECHNICAL COLLEGE (BLOEMFONTEIN)	NATAL TECHNICAL COLLEGE (DURBAN)	POTTERIA BIRMINGHAM TECHNICAL COLLEGE	PORT ELIZABETH TECHNICAL COLLEGE	PRETORIA TECHNICAL COLLEGE	WITWATERSR RAND TECH NICAL COL LEGE 1	TOTAL
Preparatory (i.e. Std VI and below)									
Full-time	—	—	—	—	—	—	—	—	—
Part-time	56	34	29	45	—	—	—	172	326
Total	56	24	29	45	—	—	—	172	326
Technical									
Full-time	68	118	—	197	54	18	623	1,035	2,133
Part-time	1,602	344	221	887	177	488	1,140	5,769	10,628
Total	1,670	462	221	1,084	231	506	1,763	6,824	12,761
Commercial									
Full-time	365	93	130	271	27	72	389	1,369	2,656
Part-time	1,924	244	251	813	175	419	956	1,593	5,675
Total	1,589	337	371	1,084	202	491	1,295	2,962	8,331
Domestic Science									
Full-time	47	—	—	47	—	—	15	117	226
Part-time	143	—	—	137	10	—	56	40	386
Total	190	—	—	184	10	—	71	157	612
Other									
Full-time	—	—	—	31	—	5	10	248	294
Part-time	—	—	—	338	—	242	525	825	1,930
Total	—	—	—	369	—	247	535	1,073	2,224
Total									
Full-time	480	211	120	546	81	95	987	2,789	5,309
Part-time	3,025	612	501	2,220	362	1,149	2,677	8,399	18,945
Total	3,505	823	621	2,766	443	1,244	3,664	11,188	24,254

¹ Excluding students who took correspondence courses 319 at Cape and 9,146 at Witwatersrand Technical College

² These consist of (1) Physical Education students 10 full-time (teacher's course) and 276 part-time (ii) Adult and Visual Education students 249 part-time

idea of the relative emphasis on the various types of training. Technical training comes first, with nearly 13,000 students, and commercial training has over 8,000. The latter, however, exceeds the former in respect of full-time enrolment.

Relationship of Technical Colleges to University Education

The next question to be considered is the relationship of the technical colleges with the universities on the one hand, and the secondary or high schools on the other.

The principal function of technical colleges is, as stated in the Calendar of the Cape Technical College, "to provide instruction and training in technology, directly or indirectly bearing upon trade, industry and commerce, and to provide higher education and instruction in all its (i.e. of technology) branches."

It is unnecessary to discuss here in detail the relationship between the technical colleges and the universities, as this has already been fairly fully dealt with in a previous article on South African Universities, *q.v.* in the YEAR BOOK OF EDUCATION 1934, page 771. The following observations may, however, not be out of place.

As we saw above, technical training in the early days was given in conjunction with the university institutions at Capetown and on the Rand. In this way the universities developed in course of time their departments of engineering and commerce which provide graduate training leading to degrees in engineering and commerce. It is to be expected that in industrial countries in the future the higher posts in industry will often, perhaps usually, be filled by university-trained men. For the modern university tends to become more and more a technical training school for the professions and for industry. This serves as a full-time training for pupils who have completed a secondary or high school education and who begin another full-time educational course at the age of about 18. These men will in course of time become the leaders (though not exclusively) in industry.

Provision has, however, to be made also for the training of the non-commissioned officer of the industrial army—to use the inevitable if inelegant metaphor—for the training of the highly skilled man, the foreman, the charge-hand, etc. This is what the technical colleges provide by contrast. If one studies the ages of students in Table 6, it will be noticed that they provide

(a) full-time "pre-apprenticeship" courses for pupils from 14 to about 18, and

(b) part-time courses for apprentices, and others (including girls and women), who have already begun work. The technical colleges are differentiated, therefore, from the universities by the age of the pupils and the part-time nature of the instruction. They are differentiated from the high school by the last consideration, and by the nature of the curriculum and the definitely vocational character of their work.

With regard to the charge sometimes made against the technical

colleges that they exceed their legitimate sphere, we may quote the finding of D1 F H Spencer, Chief Inspector of Technical Education in England, who recently made an investigation into Technical Education in South Africa, and published in 1937 under the auspices of the Carnegie Corporation a very valuable report, *The Technical Colleges of South Africa*. Dr Spencer says "The colleges are in no instance infringing on the legitimate spheres of the universities on the one side or of the high schools on the other. The charge that they tend to usurp the functions of the universities has no foundation in fact. On the other hand, the colleges do provide for industry and commerce the kind of non-university education which has grown up in all modern civilised states. They provide the training which is calculated to produce an intelligently equipped personnel for industry."

There has just recently arisen in the Transvaal, however, the possibility of a clash of interests between the day technical and commercial schools on the Rand and the proposed junior high schools which the Provincial Education Department intends establishing. We shall deal with this point later when discussing the control and co-ordination of education at this level.

Let us first look briefly at the ages of the students in these courses, and next at the courses themselves (see table on next page)

Analysis of Table 6

Table 6 shows the age distribution of students in technical colleges. (*Note*—The totals do not tally with those in Table 5 because the latter gives the average number of students for the whole year, while the former represents the enrolment on a particular day—in order to get their ages.) The students have been divided into three main groups

(a) *The Lower*, which consists chiefly of those doing pre-technical work. While the median age of the full-time students (about 1900) is 16.2 years, the part-time students in this group are nearly two years older on an average.

(b) *The Intermediate*, which do the technical or commercial work proper in preparation for the National Technical or Commercial Certificates. This group constitutes the bulk of both the full-time and the part-time students (16,000 in all). They are on an average a little more than a year older than the *Lower* group, i.e. 17.3 for the full-time and 19.7 for the part-time.

(c) The smallest group is the *Advanced* consisting of 222 full-time and 1,348 part-time students. They are on an average over 20 years of age. The full-time students consist mostly of those taking teachers' courses.

An interesting point to notice in regard to the ages of the students is the fact that 25 per cent of the full-time students are under 16, while 25 per cent are 16 and the rest over 16. Sixteen is the entrance age to apprenticeship in South Africa.

In describing the courses themselves, we cannot do better than

TABLE 6

AGES OF TECHNICAL COLLEGE STUDENTS (AS ON FIRST TUESDAY IN JUNE 1937)

AGES	FULL TIME					PART TIME					FULL TIME AND PART TIME				
	LOWER	INTER-MEDIATE	AD- VANCED	TOTAL	PERCENT AGE	LOWER	INTER-MEDIATE	AD- VANCED	TOTAL	PERCENT AGE	LOWER	INTER-MEDIATE	AD- VANCED	TOTAL	PERCENT- AGE
Under 15	335	89	—	424	8.47	171	93	—	264	1.40	506	182	—	688	2.89
15	504	353	—	857	17.12	325	327	—	652	3.47	829	680	—	1,509	6.34
16	484	773	—	1,257	25.11	735	975	—	1,710	9.09	1,219	1,748	—	2,967	12.46
17	348	777	4	1,129	22.55	911	1,721	27	2,659	14.14	1,259	2,408	31	3,786	15.91
18	179	440	59	678	13.55	711	1,944	91	2,806	14.92	950	2,384	150	3,484	14.66
19	51	237	54	342	6.83	569	1,967	124	2,660	14.15	620	2,204	178	3,002	12.01
20 and over	14	200	105	319	6.37	807	6,140	1,106	8,053	42.83	821	6,340	1,211	8,372	35.16
Total	1,915	2,869	222	5,006	100.00	4,289	13,167	1,348	18,804	100.00	6,204	16,086	1,570	23,810	100.00
Median Ages	16.2	17.3	19.9	17.0	—	18.0	19.7	Over 20	19.5	—	17.4	19.2	Over 20	18.4	—

This Table does not include 286 and 9,146 Correspondence Students at the Cape Technical College and at the Witwatersrand Technical College respectively

use the words of Dr F H Spencer, who, in his report quoted above, brings to bear on the South African situation his wide experience of and keen insight into technical education in Great Britain and other countries. His exposition will therefore be more clearly understood by readers who may not be acquainted with the South African system than any description we could give.

Critical Examination of the Courses

Full-time Schools and Courses

"Most of the institutions provide full-time pre-apprenticeship courses of from two to four years' duration. The mass of the students, even in those cases where a four-year course is provided, leave at the end of two years, and the number of students to be found in the fourth year of the course is inconsiderable. Such fourth-year students are generally those who wish to matriculate by the alternative route provided by these courses, and, possibly, many of them proceed for good or ill to the universities. British practice is against this, and the junior technical schools (which are the British equivalent of the day technical departments of South Africa) and the British trade schools provide no direct avenue to the university. The engineering departments, for instance, of the British universities, which are naturally large and important, are recruited from boys who have passed at the age of 16 or 17 the British equivalent of the South African matriculation, and have spent a further two years (advanced course) at school before proceeding to the university. In South Africa the passage through the technical school to the university (usually to the engineering department) adds to the number of students who qualify as engineers without any practical training under ordinary economic conditions. They have not "been through the shops", and in Great Britain it is now held that there is great danger of an over-supply of the mainly academic engineer. This danger may not exist in South Africa. Nor are the numbers passing, without real experience of workshop conditions, through the technical college to the university great enough to cause much perturbation. But this tendency should, I venture to think, be watched and, if necessity arises, regulated.

"Conversely, a way to the university for the part-time student who has had practical experience under ordinary economic conditions should be left open. It sometimes happens that a part-time student develops great ability in a course which tests his capacity and his endurance for five or six years. He should be put into such a position that any career he can achieve should be open to him. British engineering, which, after all, for the best type of work is second to none in the world, has gained quite a high proportion of its leaders from the part-time student. A way to the university for the exceptional part-time student should therefore be left open. And if such part-time student does not or cannot proceed to the

university, he should still be open to employment on his merits. I cannot be accused of any lack of appreciation of university education, but if, as I am informed, certain executive posts are confined by rule to graduates, I think it a great mistake. That graduates should be preferred is proper, but any process of rigid exclusion is bad.

"These full-time schools and courses in the South African Technical College fall, at least, nominally, into two classes: (a) day technical schools, (b) trade schools. The difference between them is that the first gives the more general training on the manual side, whilst the second trains for a particular trade from the beginning. I think the day technical school also lays greater emphasis on the theoretical side of the instruction, on mathematics and physical science, for instance, receiving greater attention. Neither training is any real substitute for apprenticeship or other systematised training or practice in ordinary works under ordinary economic conditions.

"If one had to choose between the two types of school as they purport to stand, one would choose the first as being the more generous alternative, and as offering greater opportunities to the pupil in his ultimate future. For the pupil in the day technical school gives more attention to theory which is in our day increasingly essential in posts of technical responsibility, and he enjoys a wider range of manual practice, for example, he gets wider experience in the metal trades, mechanical, electrical, smithing and so forth, whilst the trade school boy specialises in one department. In actual practice, however, we get another instance of the divergence in principle being narrowed in practice: the trade school boy does get a good deal of instruction in mathematics and science, whilst the technical school boy gets a good deal of instruction of an effective kind in a large group of operations. In any case, the trade school boy has to serve his apprenticeship, and will always have to do this. The concession of a single year from the ordinary apprenticeship does not appear to be over-generous.

"In Great Britain it may be remarked that the trade school is to be found chiefly in London, where the numbers to be dealt with are very large and the variety of industries very great. The trade schools for engineering, however, are of the 'junior technical' or 'pre-apprenticeship' type, whilst in the specialised 'trade' schools—for example, building, musical instrument making, navigation, the school for chefs and waiters—a good deal of attention is given to theory (or its equivalent) as well as to practice. In the British provinces, schools of this kind tend to be of the general pre-apprenticeship type. As with the trade school, their object is to prepare the pupils for an immediate industrial career, and for the more advanced part-time technical education which should accompany it. In the schools for girls (those for the needlework trades, domestic work, photography, hairdressing, and the like) the possibilities of the theoretical work, whilst not negligible, are less prominent.

"In all cases the British vocational schools give, I think, rather

more time to general cultural work than seems to be the case in South Africa. Thus, naturally, I think to be right. After the first year the South African schools seem to drop geography entirely, whilst history, even from the economic standpoint, does not enter the picture. On the other hand, 'civics,' which would be unusual in a British trade school, does form part of the curriculum. The second language, which is universal in South Africa, is absent in the English pre-apprenticeship school except in the few instances (e.g. French for chefs and waiters) where a European language is taught as a technical subject.

"Before leaving the full-time vocational schools it will be convenient to say a few words about the 'commercial' schools conducted in, or in connection with, the technical colleges. These resemble very closely similar 'junior commercial schools' as they are called in England. Typewriting, shorthand and bookkeeping are naturally prominent in the curriculum in both cases, and the great majority of the pupils, again in both cases, are girls. The second language is a feature of British schools as it is in the Union. But in Great Britain the language will usually be French, and thus the pupil unable to make good progress will be allowed to drop, a possibility which does not exist in South Africa. In both cases, too, the two-year commercial course may be followed in some instances by a third year, and pupils, chiefly girls with a sound secondary education, may take an intensive one-year course more predominantly technical in character.

"The justification of these schools or departments in both hemispheres is their success. They do provide a fairly well-informed type of worker eagerly sought after by office employers. And like their parallels on the technical side, they provide a discipline which is valuable, and an addition to the culture of the pupil which might, of course, be greater, but which is by no means negligible. Those who rather depreciatingly regard bookkeeping and shorthand from a high vantage ground should endeavour to master these office arts and realise the intelligence and the industry required by the process.

"I think the curriculum in the South African commercial schools is, on the whole, rather narrower than in England. The subject of commerce, so far as I have been able to observe its teaching in South Africa (and I admit a necessary lack of opportunity to do this with thoroughness), tends to consist of mere business routine. More effort should be made to convert this subject into a simple treatment of the descriptive economics of commerce, and to bring it into close relationship with the applied arithmetic of commerce. Though the mass of the pupils are girls who aim at employment as shorthand typists, or in some cases as bookkeepers, and whose term of employment may not cover many years, some real attempt to make the processes of commerce intelligible is, I think, very desirable. The necessity as well as the opportunity is greater in the short post-matriculation course where the pupils as a whole are more intelligent as well as older. Otherwise, what is called com-

merical education may prove to be nothing more than office education as it was in England in the past, and, in spite of reforms, still tends to be, in the absence of guidance and if pressure from above is relaxed

Part-time Courses

"The backbone of the demand for part-time courses which are everywhere the largest part of the technical college work is formed by the apprentices attending under the Apprenticeship Act, which, in its operation, is in advance of British practice. In Great Britain part-time attendance in the day is not uncommon, but it is not universal and compulsory, and depends on the good will of enlightened employers. The compulsory clauses of the Fisher Act (which provides for daytime continuation education ultimately for all employees between the ages of 14 and 18) has only been operated without break in the single instance of Rugby. Here, in South Africa, attendance is confined to apprentices who, in the general case, attend four hours a week or thereabouts during working hours, and another four hours in the evening. As the attendance is compulsory it seems in some cases to be unwilling, and the presence at the technical school of the apprentice does not invariably mean that he imbibes knowledge eagerly. The impression that I formed after visiting all the technical colleges, seeing as much of the work as it was possible to see, and conversing with teachers, is that looking at the results broadly the system is an undoubted success. The majority of the apprentices now take the system for granted, and pursue the work up to the limits of their capacity, the classes form a sifting ground for those capable of advanced work, and willing to pursue it.

"The mass of the more elementary part-time work on the technological side, therefore, consists of courses of a preliminary kind in the two first years, followed by a more strictly technical course for the National Technical Certificate. This system pertains to most trades, though in the smaller technical colleges the number of apprentices is so small that provision for them is not possible. The commonest trades are the various types of engineering and metal trades, the building trades, the furniture trade, painting and decorating, printing and mining. There is of course much part-time evening instruction of the commercial order, but no apprenticeship law applies to the clerical occupations, nor to shop assistants, a class whose technical education seems to be almost universally neglected in South Africa.

"The great merit of the system is that the compulsory attendance is almost universally followed up to an advanced stage by a not unsatisfactory proportion of the apprentices, after the period of compulsion has finished. This advanced stage, within its narrower limits, consists of work, at least for the constructional trades, comparable with university work. Those students who survive for this type of instruction add a theoretical and a comprehensive practical

knowledge to their workshop experience and fit themselves for posts of responsibility, to their own benefit and to the benefit of society. It may be argued that out of a hundred apprentices, not ten survive to this stage. But those who do not survive have not failed to benefit, though to a less extent, both by the knowledge they have acquired—often very real knowledge because related to daily experience—and by the discipline they have subconsciously undergone. No one begrudges high school education, or proposes to abolish it or to render it grudging financial support, because it takes one hundred secondary pupils to produce three undergraduates, not all of whom will ultimately graduate, and of whom, again, a very small percentage will take a really good degree.

“In my experience and belief the production of a relatively small number of part-time students of the highest order is a matter of supreme importance for any nation which is to have an industrial future. Those who follow a part-time course to the national certificate stage will furnish the ‘non-commissioned’ staff of industry who are as essential to success as the management. Those who add to this a successful advanced course under technical college conditions have qualified for almost any post in industry. And, as in Great Britain, where an important fraction of those in responsible industrial posts have been trained in the way described, so I believe it to be very much in the national interests of South Africa that there should be a supply of highly equipped technicians who have obtained their training in a way that guarantees their grit as well as their knowledge.”

Problems requiring a Solution

Consideration of the Needs of the “Hinterland”

In order to meet the needs of the smaller towns continuation classes have been established in twenty-four different centres. They had 2,400 students in 1937, of whom one-third were girls. They concentrate chiefly on commercial training for those at work.

The fact that technical colleges, in order to be run as efficient units, must be situated in the larger urban centres places the rural child at a considerable disadvantage because, in addition to tuition fees, he has to pay for his board as well. To give him an equal chance bursaries are wanted. The Union Department of Education provides some and the technical colleges try to provide others. Laudable though these efforts might be, the provision is totally inadequate, particularly in view of the fact that in two of the provinces, viz. in the Transvaal and the Orange Free State, ordinary high school education is tuition free and there is in addition a system of bursaries and bursary loans available for the rural child—far more generous than those which a technical college student can hope to get. This fact more than anything else in South Africa loads the dice in favour of the academic type of training, irrespective of the needs of the pupil.

Unfair Competition of Junior High Schools

It is this fact, too, which would place the Witwatersrand Technical College in an awkward position if the scheme of free junior high schools contemplated by the Transvaal Education Department were to go through. In these junior high schools the Transvaal Education Department intends to provide differentiated types of secondary education which will include not only domestic science—to which no one could raise any objection as a part of any girl's education—but also commercial and trade training commencing after Standard V. Because the latter would be free the technical college would have to shut up shop, unless it makes its courses free also. Thus the technical college, which is a State-aided institution and largely dependent for income upon fees, is unable to do under the present financial and administrative arrangements.

While it is readily admitted that such a liberalising of the post-primary education offered by the Provincial Education Department should be warmly welcomed for the country towns where no provision for practical education exists, it is not so patent that this would be a wise step in the case of towns and cities where technical colleges are already doing the work, and doing it better than the provincial schools, without the necessary staff and equipment, could hope to do it. Besides, when in 1925 the Union took over all vocational education and left the provinces with the ordinary primary and secondary education, the Transvaal Education Department undertook not to introduce commercial and technical subjects into its schools. This explains the widespread activities of the Witwatersrand Technical College in these fields, involving large capital expenditure in buildings and equipment. To use these only for part-time work would make the overhead cost unbearable.

While the multilateral junior and senior high school may be the best solution of the problem of providing differentiated education for adolescents in the smaller towns, it is an open question whether in the larger cities *separate types of schools* do not provide more efficient training.

The Problem of Apprenticeship

Another difficulty is that if boys after Standard V first have to go to a junior high school and then to the technical college in order to get real technical training, there will not only be a lack of continuity in their training, but they will definitely lose time and be too old when entering upon and completing their period of apprenticeship. This is five years. Usually this period is shortened by one year as a recognition of three years' trades school training, though employers are not obliged to do so by law. This is an unsatisfactory situation. Another aspect which needs serious attention is the total absence of any considerations of *quality* in the training which an apprentice undergoes under the normal apprenticeship system. All that seems to count is mere length of time served. Individual

apprentices differ so much in learning capacity that it is quite conceivable that certain boys will reach a level of proficiency after three years' apprenticeship which will never be attained by others after five or even seven years. Moreover, it is obvious that workshop training under a competent trade instructor is much more intense and carefully carried out than that which the average employer is able to provide in the earlier portion of the apprenticeship period. Of course, the real reason behind all this is the pocket of the employer. The longer he can keep a boy on an apprenticeship basis, the less he has to pay for his labour.

The Need for Co-ordination

A way out of these difficulties seems to lie in the following directions

(a) From the employer's end there should be a reconsideration of the whole position of apprenticeship training so as not only to allow for qualitative assessment of an apprentice's progress, but also to give the over-age boy from the rural areas, where he may have become redundant on the land, a chance to enter the skilled trades. Otherwise he is too often doomed to be an unskilled worker and drift into poor whiteism. This is an important point for a young country which is rapidly becoming industrialised.

(b) From the school's end there should be a bridging of the present gulf between the administration of the academic type of secondary education by the provincial authorities on the one hand and that of the technical and more immediately practical types of training given under the Union Education Department. We have repeatedly referred to and described the origin and baneful consequences of this artificial dualism in our educational system in previous volumes of the YEAR BOOK OF EDUCATION (see 1932, page 653, 1934 page 334, 1936 page 657, 1937 page 202), and therefore need not discuss it any further here. Dr F. H. Spencer confirms those views in his report referred to above. He concludes "I feel confident that the separation in control of technical from primary and secondary schools is wrong in principle and inconvenient in practice. The separation of the technical colleges from the rest of the educational system was, doubtless, necessary, but, if and when opportunity arises, the consolidation of primary, high school and technical education under the same supreme control should promote proper co-ordination and, therefore, efficiency in all parts of the system."

It seems from the discussions at the recent meetings of the Inter-Provincial Consultative Committee that one way out of the difficulty will be to establish a *National Education Board* whose function it will be to co-ordinate all the types of education which impinge upon children at the adolescent level, while leaving the provinces to their own devices as regards primary education. It is only by viewing education at that level as a whole that we shall get away, not

only from the administrative dualism, but also from the artificial distinction between cultural and vocational education. Then and then only will it be possible to provide *carrières ouvertes au talent*.

It may then, too, be possible to get the ordinary academic schools to realise that technical institutions are justified not only for important utilitarian ends, but because they afford the right type of education for the numerous intelligent lads and girls of the non-academic type of mind. The ordinary schools have not realised or not wanted to realise this, because the enrolment of the school will decrease if they draft children out to another type of school, and the school's grade and the teacher's salary will drop in consequence. Then, too, there has been an almost total absence of vocational guidance.

The words of Dr Spencer are worth quoting in this connection.

"A system of training is not necessarily wrong or inferior because it is definitely an aid to preparing for a working life. If this were so, the education of teachers, lawyers, doctors, nurses, engineers, soldiers and sailors of the officer class, and incidentally, therefore, a great mass of university work, would stand condemned. The truth is, that at the age of adolescence many boys and girls are immensely stimulated by the new interest which applied science and the handling of tools and materials provide. The mere fact that their training is directed to an occupation is in itself a valuable stimulus to that interested effort, which, properly directed, is the sum and centre of all real education. We may put it crudely, but not really inaccurately, by saying that in these circumstances many boys and girls cease to be taught and begin to learn. Further, we find by experience that a full-time education of the technical type is the best preparation for the future advanced pupil of the technical college proper. The production of such advanced students is of vital importance to industry, and to the students themselves.

"Nor need this education fail to provide the culture derived from our common inheritance of humane knowledge, which up to the limits of our individual capacities is the birthright of all. It is a question of degree and of emphasis."

Finance of the Technical Colleges

This point has been fully dealt with by Sir John Adamson in the YEAR BOOK OF EDUCATION for 1935, pages 306 *et seq*. In that chapter he gives an exposition of a scheme of subsidy devised by a Government Committee of which he was Chairman. This scheme, though adopted by the Government at the time, has proved to be unworkable in practice, and the financial position of the technical colleges is far from satisfactory. Dr F. H. Spencer in his report referred to above criticises the scheme and gives a good outline of the difficulties involved. He states that, though he did not originally consider finance as part of his province, it "met him at every turn as the cardinal problem of the colleges."

"The position appears to be this. The technical colleges, or at any rate the function of providing technical education, were removed, with certain other matters more conveniently handled by the Union Government, from the jurisdiction of the provinces to that of the Union Government. But the Union Government does not directly conduct the work of the technical colleges. It *aids* that work. Each college is a corporation with an independent governing body of statutory constitution, the governing body is partly nominated, and partly representative, in the sense that the municipality, local employers and employed and also local interests are necessarily members of that body. Thus the colleges, to use an easily understood nomenclature, are not maintained but aided institutions. The governing body in each instance, though at least partly nominated by the Union Government, is local in character. But it is not in any sense a local education authority. It has no power to raise money by rate, tax or other form of compulsory levy. Incidentally, it is necessary to remark that in South Africa there is no local education authority of the British, European or American type. For this, among other reasons, it comes about that primary and secondary education are maintained by the province, whilst technical education (so far as the technical colleges are concerned) is controlled but not in detail administered by the Union Government. Financially, it is aided by that Government, which explicitly excludes the responsibility of maintenance, and takes up the position that besides the fees paid by students or their employers, other local income must be obtained. Indeed, in the various schemes which have been proposed since 1928, the view invariably has been taken that the Union financial contribution, though a large one, shall always be a function of the money raised locally by fee or otherwise.

"It may be convenient to note here that this attitude is not kept up with regard to educational institutions other than technical colleges within the jurisdiction of the Union. The trade schools, the industrial schools, and certain agricultural schools up to the present conducted by the Union Government are fully maintained by the Government, except for the small revenue paid in fees, fees which, if my information is correct, are generously remitted, on cause shown, in whole or part. Thus two almost precisely similar institutions, a trade school conducted as an integral part of a technical college and a trade school run directly by the Union Government, receive very different financial treatment. This is a minor matter quantitatively, but a good illustration of the position.

"Apparently the view that the technical college shall be aided but not maintained by the Union Government is based on the view that the governing body is the corporation conducting the school, that it is local in its personal composition, and that it is the duty of the locality to assist in maintaining the college, for the reason, among others, that in this way local interest will be aroused, and local responsibility stimulated.

"In practice there is no doubt whatever that this puts every

institution I have visited, with one possible exception, into a position of great financial difficulty "

TABLE 7
THE COST OF TECHNICAL COLLEGES IN SOUTH AFRICA, 1937

		PERCENTAGE OF TOTAL
Weighted number of students ¹	8,479	
Income from Fees		
Total	£141,816	
Per weighted student	£16 73	37 4
Government Grants ²		
Total	£213,100	
Per weighted student	£25 13	56 2
Balance found by Institutions		
Total	£24,473	
Per weighted student	£2 9	6 4
Total cost	£374,398	
Per weighted student	£44 74	100 0

¹ In this total, part-time students are reduced to a basis of full-time students in order to obtain comparable unit costs. Correspondence students (9,146) are excluded, also the expenditure (£11,565) and fee income (£8,968) in connection with these courses.

² This includes £5,680 in State bursaries to students for tuition purposes.

From Table 7 it will be seen that one-third of the income of the technical colleges comes from fees which work out at an average of £15 per full-time student—a not inconsiderable sum. The State's grant works out to £26 per student, which is small in comparison with the £37 per pupil cost to the State for providing secondary education of the academic type.

Two Criticisms of Financial System

Dr Spencer's two main criticisms of the present financial arrangements are (a) *That any formula which is a function of local mendicancy is bound to be unfair in its incidence and evil in its practice.*

"The burden of this mendicancy," he says, "though it may be shared by the Chairman of the Governors or other well-disposed members of the governing body, falls principally and inevitably upon the Principal of the College. At this moment no one concerned knows what the College income will be. The grant is uncertain. No one knows how it will be calculated. No one knows how much can be collected. No one knows much more than a month before

the beginning of the financial year what the Government grant, which is and always must remain the principal source of income, will be. And this uncertainty, the existence of which cannot truthfully be denied, is paralysing the activity and the enterprise of every college, with one possible exception—that is, where a remarkable man with the highest qualities as a mendicant seems often to act as he thinks proper, creates a new institution, branch or course, trusts in Providence and his persuasive confidential tongue, and finishes a year £8,000 in debt without a visible quail. I venture to suggest that this is no way to finance what are, after all, public institutions."

(b) That the fees are too high

This is because the governing body has no power to raise money locally, other than by way of fees. One result is that for part-time courses the fees judged by overseas standards are very high. A part-time course costing about £4 for the academic year in South Africa could be obtained in London for between £1 and 30s, and in its earlier stages can often be obtained free of cost to the student and never for a fee which would exceed or which would have a greater range than from 2s 6d to 7s 6d. In the English provinces the fees as a rule would be lower. The high South African fees are often paid or reimbursed to the student by the employer. But this is not infrequently the case (with junior students of the apprentice type) with the much lower British fees.

The Problem of Ultimate Responsibility

Dr Spencer goes on to show in a fairly convincing manner that it is impossible to apply one single formula to institutions with such varying circumstances as are to be found in South Africa, and proposes in its place a *deficiency grant* by which the Union Government makes good the total sum proved to be desirable over and above income from fees and local sources. This sum is to be arrived at by a fixed procedure which involves inspection by the Department to assess validity of claims and mutual consultation between the College and the Departmental authorities.

He comes back, however, to the question of local responsibility for a type of education which serves the locality first and foremost. A technical college is an urban institution providing an urban type of education for urban people. It is an understatement to say that 90 per cent of the students come from these towns and will live either in the town of their upbringing or in another. The case for local support, therefore, is strong. The absence, however, of any machinery or even of a tradition which would make such support possible is something which invariably fills the overseas educator visiting South Africa with amazement, if not despair. Dr Spencer is therefore no exception. As was pointed out before, there is no local education authority in South Africa, and as regards technical education, neither the provinces nor the municipalities have the statutory duty to maintain it. The contributions of the municipi-

palties are dependent upon their sporadic generosity, which Dr Spence describes "If it were polite to say so, I should say is upon a despicable scale."

The following are some of the usual arguments against municipal contributions to the technical colleges

(a) Technical education has been taken from the Provinces by the Union. The Union should therefore provide for it

(b) The Municipalities, as such, have no direct concern with education, nor have ever had such concern, at least in "modern" times. The Provinces control some forms of education, the Union, other forms. Schools therefore are not a municipal concern.

One person in the Transvaal put it epigrammatically "If the roof of a school is blown off, that's not our business. It's true that the town could replace it at once. But let the Union or the Province do it. It is their business. It's true they'll take much longer than we should, but let them! We can't help it."

(c) The Municipality has no money and is already overtaxed for Provincial and Union purposes. The Johannesburg argument, for instance, runs thus "The Union gets most of its funds from the mining industry and from us. We don't propose to spend money on education. Let the other authorities do it. They get the money. We do not, we pay it."

Conclusion

From the above it would appear that the only courses open to save Technical Education from anaemia or strangulation are either

(a) The State should take them over and maintain them as it does the vocational, industrial and agricultural schools under the Union Education Department and as the provinces maintain the primary and secondary schools, or

(b) Our system of local government and finance should be so reformed as to impose a statutory duty on local authorities to provide for technical education at least up to a definite minimum.

E. G. MALHERB

CHAPTER NINE

TECHNICAL EDUCATION IN NEW ZEALAND

(See also YEAR BOOK, 1932, pages 600-26, 1933, pages 476-85, 1934, pages 326-33, 1935, pages 278-84, 1936, pages 673-9, 1937, pages 219-38 and 321-5, 1938, pages 225-40)

Historical

ANYONE unfamiliar with the psychology of colonisation might well imagine that the pioneers in New Zealand would have developed for their children an education centring on the hard, concrete realities of everyday life. Faced as they were with nature in the raw, they had obviously little time for the subtleties and sophistications of the intellect, but of practical problems they had no lack. There were new lands to be broken in and new ways of farming to be devised, before long there were gold-mines and coal-mines to be exploited, and, whilst there were no secondary industries of importance, there were a thousand practical problems facing the settlers for every one capable of linguistic solution. A formal education system might be long in arising, but when it did come, the naive observer would imagine, it must obviously be practical in nature—the delicacies of the intellectual life might be missing, but at least, one had a right to expect, the system would be in close touch with practical life.

Yet matters did not work out so. One does not instantaneously develop a new educational philosophy by crossing the Equator. One may, in fact, become thereby more than ever wedded to the old, for nostalgia is one of the dominant driving forces in the life of the colonist, and, culturally and educationally, he is less interested in adapting himself to his new environment than in surrounding himself with the institutions and ideas that formed the background of his life in the homeland. Especially is he concerned to give his children an education that shall link them to the life he has known. Cultural continuity is to him of even greater importance than practical adaptation. Strangely enough, this very desire to copy the institutions of the homeland may cause the pioneer to lose effective contact with it, for he tends to ignore, even clamantly deny, the changes that have taken place since his departure. The homeland he copies may be the homeland of twenty years before, or even an idealised and never-existent land seen through the mist of the softening years.

With nothing but a knowledge of this queer human tendency and of the nature of education in England at the middle of the nineteenth century, one might deduce with fair accuracy the kinds of school that arose in the young colony. The elementary schools were

concerned almost entirely with the teaching of the three R's, supplemented, in some places, by scripture. The secondary schools (of which some twenty-five were founded before the end of the century) were based upon the colonists' conception of the English public and secondary schools, and made Euclid and the classics their staple intellectual diet. Even in 1900 one headmaster could say without much exaggeration that "our primary schools [do] not fit children to be anything but shopmen and the secondary schools [do] not fit them to be anything but lawyers."

The Education Act, 1877

The *Education Act, 1877*, upon which New Zealand's national system of education is based, did nothing to make the schools more realistic. In the debate on the Bill one parliamentarian complained, "I think it is nothing short of a national misfortune that in a Bill purporting to be the first Bill providing an education system for the Colony, there is not a single word to be found about industrial education."¹ But the colonists were not interested in industrial education. The only two industries of major importance were agriculture and mining, and, although mining, at least, was conducted with extreme inefficiency,² it was not until 1878 that a University School of Mines was started, and only in the middle eighties were Schools of Mines opened in the minefields. Surveying was another field in which technical instruction was urgently needed. Surveys were often carried out by men with little or no training, and "cases are on record in which properties were surveyed up to as many as twenty times without a result being arrived at which the Department could pass. An official report estimated the loss to the community from inefficient surveying over a period of years at about half a million pounds."³ Yet so fixed were the ideas of what constituted a useful education in the antipodes, that only in 1890 was a School of Engineering attached to one of the University Colleges.

Defects in the Act of 1877

Not only did the *Education Act, 1877*, ignore altogether the need for technical education, but it also made very difficult the task of modifying the academic curriculum of the secondary schools and so producing a system of post-primary education more fitted to the country's needs. For it brought only the primary schools within

¹ Quoted from an historical study (as yet unpublished) of technical education in New Zealand prepared by Dr J. Nicol for the New Zealand Council for Educational Research. I am indebted to Dr Nicol for many of the facts of this historical section.

² Nicol quotes an inspecting engineer who reported in 1889 that in one area only 27.3 per cent of the gold and 6 per cent of the silver were being extracted from the ores, due largely to the ignorance of those responsible for the work.

³ Nicol, *op cit*

the national system, and, whilst giving the secondary schools one-quarter of the country's educational endowments, it gave them control over absolutely to local boards of governors, and reserved to the central Education Department no power to alter their curricula. So when, from 1885 onwards, an enlightened administration wanted the secondary schools and university colleges to take up practical subjects and conduct evening classes for apprentices, it had no means of enforcing its wishes, and the schools, except for a few minor changes, went on as before.

The Period from 1899 to 1915

George Hogben, who was permanent head of the Education Department from 1899 to 1915, began at the turn of the century a new move to tempt the secondary schools to include science, agriculture and manual work in their curricula. He offered subsidies for such courses, and did, indeed, persuade some schools to teach science, but there was no real understanding in the schools and no great demand in the country for the new courses. So Hogben was driven to sanction the creation of what was in effect a new type of school, free from the academic tradition and under the direct control of the Department in many respects. This was the "technical high school," which, as one Minister of Education pointed out, was primarily "a protest to the existing secondary education."¹ The technical high school, however, did not spring fully-armed from the departmental head. To understand why the "protest" should have taken just this form it is necessary to know something of the development of technical classes in New Zealand during the last quarter of the nineteenth century.

From 1876 onwards various bodies of a more or less public nature had started part-time art and technical classes in different parts of the country. At the end of the century, in addition to university schools of medicine, mining and agriculture and the Government schools of mines, there were in the bigger towns small yet fairly permanent technical schools catering, through evening classes, for the needs of apprentices and others. The amount of Government assistance for such work was limited to £2,000 a year even as late as 1895, and the schools were, on the whole, badly housed and poorly equipped. Also, quite apart from limitations of equipment, the classes could not well have conducted anything but elementary courses, for few of the students had sufficient general education to enable them to do advanced work.

The *Manual and Technical Instruction Act*, 1900 and 1902, did not mention the establishment of day technical schools, but it is probable that some such idea was in Hogben's mind, for the

¹ For a fuller account of the relations between secondary and technical schools in New Zealand see my article on "The Education of the Adolescent in New Zealand" in the *YEAR BOOK OF EDUCATION*, 1937. Also A. G. Butchers, *Education in New Zealand*.

provisions of the Act offered no obstacle to their establishment,¹ and the term "technical instruction" was defined so broadly as to include almost anything that any school could care to teach. The Department, whilst giving local bodies a fair degree of freedom to adapt the technical classes to their own needs, kept the final control in its own hands. So when, from 1904 onwards, it became apparent that the secondary schools were not to be tempted from the straight and narrow path leading to Matriculation, the Department did nothing to prevent the technical schools in the four main centres from developing full-time day classes to do the work that the academic high schools refused to touch. The first of these technical high schools developed in Wellington under the sagacious direction of W. S. La Trobe (later Superintendent of Technical Education), and since it has largely determined the peculiar form taken by all later technical schools, a study of its functions, as seen at the time, is not out of place.

La Trobe did not see his new technical day school as a mere copy of the English technical school to which he was accustomed. "I see no reason," he wrote, "why the technical courses which I propose should not possess in a large degree the advantages which we describe by the term 'liberal education,' advantages that are, I think without sufficient reason, generally assumed to be peculiar to a high school and university training." The function of the school, as he saw it, was not to give specific training in any particular trade, but to provide a realistic general education to those desirous of entering any branch of industry. It aimed to bridge the gap between the primary school on the one hand and apprenticeship and the advanced evening technical classes on the other, and was to be a means of raising the standard of the part-time evening work, for which students had previously been so ill-prepared. It thus partook not at all of the nature of a trade school, but approximated rather to the realistic, multi-purpose secondary school that some educational reformers still see as the ideal for the country as a whole. The term "technical" was rather a misnomer as far as the day school was concerned, and has at times led to confusion in popular thinking.

Day schools similar to La Trobe's rapidly sprang up in the other three centres, but Hogben, with some lingering hope that the secondary schools in the country districts and smaller towns would yet relent, refused at first to sanction the establishment of day technical schools outside the four centres. It soon became obvious that the secondary schools were not going to move. Some schools, indeed, did qualify for small technical grants, but these were claimed mostly for the pure sciences and a certain amount of commercial

¹ A. D. Riley, who was in charge of the technical classes in Wellington from 1888 to 1904, presented to the House of Representatives in 1898 a report which foreshadowed this and many later developments in technical education. Hogben endorsed his report, and many ideas in it were incorporated in the Act of 1900.

work. There was a strong preference for classes in shorthand and typing rather than agriculture and allied pursuits even in districts where offices were few and farms many. In 1912, Hogben in desperation had authority given for the founding of day technical high schools outside the four main centres. They developed fairly quickly, sometimes in competition with secondary schools and sometimes as the only kind of post-primary school for a district.

Since then some of the secondary schools, especially in the smaller centres, have realised the opportunity they missed, and have made efforts to develop the practical side of the curriculum. In places where secondary and technical schools exist side by side this has meant some duplication of functions.

Importance of the Economic Factor

To understand the present pattern of technical education in New Zealand, one must follow two intertwining threads, the one educational and historical and the other economic. We have seen that Hogben's development of the technical day schools as a substitute for reformed and enriched secondary schools tended to make the technical schools less specialised and more academic in nature than would probably have been the case had they arisen purely as a response to the needs of the industrial world. Yet the economic and industrial situation itself was not such as to encourage the growth of trade schools or technical schools with any high degree of specialisation. New Zealand is, and always has been, predominantly dependent upon its primary industries, and, although secondary industries are growing up, they are, for the most part, scattered, and there are no trades that could supply in any one centre sufficient pupils for a specialised trade school. For that matter, there are plenty of industries (e.g. boot and shoe industry) that cannot justify the running of even a part-time class of a specialised nature.

Table 1 on page 695 gives the total numbers of men and women (excluding Maoris) who are engaged in each occupational group. Data have been classified from the standpoint of personal occupation irrespective of the industry in which the individual is employed.

This industrial population is not concentrated in or around any one centre, but is scattered through almost the full length of a ribbon-like country stretching some 1,200 miles north and south. There are four main cities, with populations of 82,000 to 210,000, spaced along this ribbon of land, with nine towns of more than 15,000 scattering even more widely. The main industries centre in the cities, but there is little specialisation as between cities, so that factories and work-places are small and apprentices and learners relatively few in any one place.

Influence of Widely Distributed Population

The result of this wide distribution of a small industrial population has been that technical schools have had such a heterogeneous collection of pupils that they have been compelled to concentrate

TABLE 1—OCCUPATIONAL DISTRIBUTION
(CENSUS OF 1936)*Excluding Maoris*

GROUP	MALES	FEMALES	TOTALS
Fishermen and trappers	2,793	1	2,794
Agricultural and pastoral occupations	116,207	6,209	152,416
Forest occupations	5,254	4	5,258
Miners and quarrymen	10,240	1	10,241
Workers in—			
Stone, clay, earthenware, lime, cement, glass, etc.	2,450	7	2,457
Processes relating to chemicals, animal and vegetable products, etc.	4,663	266	4,929
Non-precious metals, electrical fittings, etc.	29,135	256	29,691
Precious metals, jewellery, scientific instruments, etc.	1,054	26	1,080
Construction of ships, boats, conveyances	3,475	16	3,491
Fibrous materials, textiles, etc., other than clothing or dress	3,365	2,009	5,374
Clothing and dress, etc.	7,059	16,585	23,644
Harness, saddlery and leatherware (excluding boots and shoes)	759	121	880
Food, drink and tobacco	17,771	2,612	20,386
Wood, etc.	10,954	76	11,033
Paper, printers, photographers, etc.	5,545	1,715	7,260

on teaching not so much the techniques of particular crafts as the general principles and skills that underlie groups of crafts. They have made a virtue of this necessity. The *Report of the Superintendent of Technical Education* for 1935 says, "It would seem that any large extension of the trade-school idea, apart altogether from the inherent difficulties such as the high cost of specialised equipment and the difficulty of disposing of the product, would not in the present state of industrial organisation be of advantage to the students in our technical schools. These are likely to succeed better the more they have a sound knowledge of scientific principle, a disciplined intelligence, and a developed power of adaptation and initiative."

Courses hitherto in use in technical high schools have in general been designed to develop precisely these qualities, and present conditions demand that these qualities should be developed to an even higher degree and that curricula should be modified constantly towards this end."

Changes in Nature of Apprenticeship

Another factor pushing the technical schools in the same direction is the change that has taken place within recent years in the nature of apprenticeship. This is a change to which all countries are having to adapt themselves, but adaptation is particularly difficult

in a small country. With the increasing mechanisation of industry and the consequent increasing specialisation on the part of the individual, each trade is tending to become, from the workers' point of view, many trades. In some trades the splitting up of operations has reduced many jobs to unskilled or semi-skilled labour. Motor manufacturing is the best-known example, but the same process is at work to a lesser degree in other industries, such as boot and shoe manufacture, where the fiction of craft skill and the old form of apprenticeship are still associated with jobs from which all but the simplest skills have gone. For practical purposes there may be little that the average young worker in such an industry can learn about his occupation from a technical school, but it becomes more than ever important that he should be provided with a good general education to recompense him for the loss of the educative influence of a skilled craft. Yet he may have neither the interests nor the abilities to enable him to gain much of value from an academic secondary course. So the technical school comes into its own in such cases, not to teach specific trade skills, but to provide a general realistic education to those whose daily work makes too little demand on intelligence and skill.

The Effect of Specialisation

Not all occupations, however, are affected in the same way by increasing specialisation. In some of them the necessity for specialisation has come in part from the increasing complexity of the crafts. In any such case one craft tends to split into many sub-crafts, each as complicated and difficult as the more generalised craft from which it sprang. Firms then tend each to specialise on one branch of the industry to the complete or relative neglect of the others. The electrical industry is a case in point. In the early days of the industry most firms would cover the whole field, and their apprentices would have experience of all types of electrical work. Now the work is becoming increasingly specialised: one firm will concentrate on house wiring and installation, another on power and transmission plant erection, and others on winding, repairs and maintenance, automobile electrical work, or manufacturing. Even within these groups there tends to be still further specialisation on such things as lifts, electric pumps, refrigerators, telephones, fire alarms and Neon lighting. The specialisation is by no means complete in New Zealand, but it has already progressed so far that a boy may spend his five years of apprenticeship on a very narrow range of work with one firm and may find himself at the end of it with very limited skills and opportunities, although he is a general tradesman in name. Changes in economic demands or in technical processes may then rob him of his trade almost overnight.

The Schools and Pre-vocational Training

Those responsible for technical education in New Zealand have been well aware of the significance of changing conditions of

apprenticeship The Superintendent of Technical Education in his report for 1933 said, " occupations continually change, disappear and are created, so that the worker must be prepared at any time to learn a new job or join the ranks of the unemployed. This adaptability and general usefulness of hand and brain are fast becoming the most marketable assets of the wage-earner. Ordinary apprenticeship is not specially designed to develop these qualities, particularly in trades divided into highly specialised sections, while the machine-tender is very unlikely to acquire them in the performance of his ordinary duties. On the other hand, the schools, which cannot hope to give specialised training for the great majority of occupations, may readily be organised to give a general training of hand and brain that will enable youth to adapt itself easily to the needs of highly specialised jobs. The general mechanisation of industry by thus making it possible and necessary for youth to receive most of its training in the school has opened the way for education in the widest sense to become not the by-product of infant labour or apprenticeship to a trade, but the whole business of the years of childhood and adolescence." And again, " It would appear that in continuing to give courses of predominantly pre-vocational character, including an introduction to the culture that is our heritage and to those accepted principles of science and mathematics upon which the industrial state is built, they will best be serving the interests of those who must soon find themselves facing the problem of earning a livelihood in a disordered world."

Wider Responsibility of the School

There can be little doubt of the wisdom of giving such a broad, generalised and realistic education to those about to enter industry, but it seems probable that the schools must be prepared to go farther than this in the future in patching the rents in the disintegrating apprenticeship system. Industry exists primarily for the making of profits, and the training of the workers is necessarily a secondary consideration, as was shown during the recent depression. Even in times of prosperity certain firms in certain industries use their apprentices as a source of cheap labour, and give a training that is scrappy and unsatisfactory in the extreme. In the consideration of apprenticeship and training problems the employers are represented by their various associations and the journeymen by powerful trade unions: there is no body but the State to represent the interests of apprentices and learners who, in the past, have been all too often ground between the antagonistic forces of capital and labour. The technical school system, working in close conjunction with the Labour Department, would seem a satisfactory instrument through which the State could exercise this function. The technical schools would then have a threefold task: to give the youth a realistic, general education fitting him for apprenticeship and citizenship, to make good in more specialised fields the deficiencies of his trade

training, and to be finally responsible for his guidance and industrial welfare until he is established as an adult worker.

The acceptance of this wider field of responsibility might involve the technical schools in changes of structure. There would probably be, in the four main centres at least, a stronger development of purely trade classes and of technical work of a really advanced nature. Apprentices would need to be released from work to take certain day classes, and it is possible that the best solution might lie in a form of the half-time system found in the co-operative schools in America and the sandwich system in England. From time to time there have been advocates of a type of group apprenticeship under which the boy would be apprenticed to the trade as a whole and not to an individual employer, so that he could be assured of a thorough and all-round training. Such a system would probably demand supervision by an apprenticeship commissioner, whose staff, representing both Labour and Education Departments, would control the training in the workshops and take steps to supplement it by technical school classes. Whichever way the solution of the apprenticeship problem lies, it is certain that more responsibility must be thrown upon the technical schools.

The Schools at Present

Keeping in mind the two influences, educational and economic, that have determined the form of the New Zealand technical schools, we can now glance briefly at the system as it at present exists. If we leave out of consideration institutions of university rank (the two Engineering Schools, the two Agricultural Colleges and the University School of Mines), there are twenty technical schools in the New Zealand sense of the term. Nearly half of these are in small centres where they have to cater for all the post-primary needs: they do not differ greatly in either structure or function from some rural secondary schools that have developed a manual side to their curriculum in response to local needs. It is merely a matter of historical accident that they are administered by different branches of the Education Department. A few others exist side by side with secondary schools in towns that are really too small to support two post-primary schools: in some of these cases feeling runs high between the two institutions, for each tends to encroach more and more on what the other considers its own preserves. A solution has been arrived at in some centres by combining the two institutions under one board and one principal: there are seven such combined schools in addition to the twenty technical schools.

The large technical high schools in the four main centres stand in a class apart. They cater for communities that are adequately served by secondary schools, and so they have no need to make provision for the purely academic type of student. They sometimes have a handful of matriculation candidates, but these are generally pupils who intend to go on to professional work in engineering or

commerce Yet even in these institutions the majority of the courses in the day schools are still designedly pre-vocational and, from a genuinely technical point of view, elementary in character Pupils enter the schools at the age of about 13, and two-thirds leave in or before their second year, the average length of life at technical day schools throughout the country being two years one month

Some evening classes in all the schools partake much more of the nature of trade classes than do the day classes, but even there the majority of the work is at a fairly elementary level It is in respect to the relationship between day and evening classes that the schools have not quite gone along the lines intended by their founders, and in the same respect they strike the English observer as being somewhat unsatisfactory For the day school, which was intended by W S La Trobe to be mainly a "feeder" to the evening school, has become the dominant institution There were, in 1936, 9,163 full-time day pupils in technical schools and 11,475 pupils enrolled for part-time evening work in all schools Since the day pupils attend for five hours a day and the evening pupils for, at the most, a few hours a week, it is the day school that does most to determine the staffing and to absorb the time and energies of principal and teachers Many of the evening pupils, moreover, attend for the purpose of patching up in continuation classes the deficiencies of their general post-primary education and not for technical work in any real sense Still more do only shorthand, typing and book-keeping Every effort is made to encourage evening pupils to take connected courses, but there is a strong tendency for many to take a rather scatty series of subjects, so that the numbers going on to advanced technical work are relatively small This is not surprising in view of the economic factors considered earlier Buildings and equipment are, on the whole, fairly adequate for the type of work done

Regulations compel the technical high schools to spend in their first- and second-year courses at least two-fifths of their time on general subjects, such as English, history, arithmetic, drawing and physical training Beyond that they are fairly free to develop curricula suited to their own local requirements Table 2 on page 700, which shows the numbers of pupils in day classes taking each subject (but not the amount of time spent on each), gives some idea of the scope of the work done in the day schools It must be borne in mind that these figures cover not only the big city technical schools, but also the small-town technical schools, which are really multi-purpose post-primary schools catering for academic students as well as for prospective tradesmen

Figures for the subjects taken in evening classes are not readily available, but Table 3 on page 701, showing the occupational classifications of part-time students on the roll of combined and technical schools, indicates the types of persons for whom the classes cater

In one respect the bigger of the technical schools have established

TABLE 2—SUBJECTS TAKEN IN TECHNICAL HIGH SCHOOLS, 1937

SUBJECT	NO OF PUPILS TAKING		SUBJECT	NO OF PUPILS TAKING	
	BOYS	GIRLS		BOYS	GIRLS
Accountancy	9	2	Home nursing and first aid	—	783
Agriculture	731	25	Home science	14	2,133
Applied mechanics	89	—	Horticulture	33	43
Arithmetic	3,489	4,076	Housecraft	30	426
Art or art appreciation	115	234	Hygiene and physiology	5	1,408
Bee-keeping	28	—	Latin	240	162
Biology or zoology	110	—	Laundrywork	—	201
Blacksmithing	92	—	Leatherwork	—	114
Book-keeping	2,210	2,864	Lettering	988	440
Botany	379	97	Live-stock	80	—
Building construction	241	—	Magnetism and electricity	998	—
Business methods	116	55	Mathematics	1,041	429
Chemistry	1,455	379	Mechanics	2,225	—
Commercial art	12	61	Metalwork	2,792	37
Commercial correspondence	170	215	Millinery	—	240
Cookery	92	2,223	Modelling	45	148
Dairy science	419	—	Music	59	13
Design and crafts	773	2,446	Musical appreciation	—	117
Dietetics	—	153	Needlework	—	2,677
Drawing	—	—	Office routine	212	385
Blackboard	4	10	Painting	14	47
Engineering	466	—	Patternmaking	228	—
Freehand	2,495	3,008	Physics	467	14
Instrumental	3,250	568	Processes	395	—
Trade	1,425	—	Quantities and estimates	2	—
Dressmaking	—	948	Saddlery	—	—
Economics	63	84	Scripture	—	—
Elocution	12	155	Shorthand	306	2,196
Engineering, electrical, mechanical, or motor	1,012	—	Singing	1,824	2,453
English	5,163	4,153	Steam	59	—
Farm mechanics	41	—	Strength of materials	4	—
French	1,292	597	Technical electricity	773	—
General experimental science	1,969	684	Textiles	—	35
Geography	1,820	1,844	Typing	606	2,236
German	—	—	Typography	52	—
Greek art and literature	—	—	Weaving	—	15
Heat and light	205	—	Woodwork	2,802	20
Heat engines	151	—	Wool-classing	133	—
History	4,650	3,672	Workshop theory and practice	396	—

TABLE 3—OCCUPATIONAL CLASSIFICATION OF PART-TIME STUDENTS IN COMBINED AND TECHNICAL SCHOOLS, 1937

	ENGINEERS AND MECHANICS	ELECTRICIANS	LUMBER, METAL WORKERS, ETC	WOODWORKERS	PAINTERS, PLASTERERS, ETC	PRINTERS, ETC	AGRICULTURAL MACHINISTS	PROFESSIONAL PERSONS	CLERICAL PERSONS	DOMESTIC PERSONS	DRESSMAKERS, MILLINERS, TAILORS, ETC	EMPLOYED IN SHOPS OR IN WAREHOUSES	ENGAGED IN VARIOUS OTHER TRADES AND INDUSTRIES	LABORERS	NO OCCUPATIONS	OCCUPATIONS NOT STATED	TOTALS
Combined Schools	94	22	29	24	7	4	8	7	142	—	—	66	70	10	67	9	559
Males	—	—	—	—	—	—	—	33	108	31	3	38	11	—	87	14	325
Technical Schools	1,467	507	512	556	76	168	210	182	2,404	—	14	1,044	928	185	386	140	8,789
Males	—	2	—	—	—	15	8	200	1,353	704	202	387	244	—	640	72	3,807
Totals 1937	1,561	531	541	580	83	187	226	422	4,007	735	219	1,615	1,253	145	1,190	235	13,430

a close and effective contact with industry. Not only are employers and workers strongly represented on the boards of managers, but advisory committees recruited from the industries concerned co-operate with the principals in securing co-ordination between the evening classes and the ever-changing demands of the industrial world.

Prospects for the Future

The overseas educationist visiting New Zealand is inclined at first to criticise the technical schools for the generalised and often elementary nature of their courses. But a man with capacity for sympathetic understanding of historical and economic backgrounds soon begins to doubt if the country could have developed any type of technical school better suited to its peculiar circumstances. At least the technical system is no mechanical copy of overseas models. It represents New Zealand's own solution of her own problems, her attempt to give to her children a broad and realistic education at the same time that she gives a preparation for adult working life.

There can, of course, be no final solution to the problem of technical education: a technical system must be sensitive to the changing needs of industry. The New Zealand technical school even now seems to be approaching a crossroads. Shall it seek to merge itself with the secondary school to form one multi-purpose, post-primary institution, or shall it move towards the more purely trade classes that are already developing in some places? No single solution can satisfy the whole country. In the smaller towns the differences between technical and secondary schools may well disappear, and there will be a single institution catering, as well as may be with its small numbers, for all the educational needs of a district. There will still remain in these towns the very difficult problem of teaching small and heterogeneous groups of apprentices in evening classes. In the four main centres it seems possible that the technical schools will hand over their elementary work to other institutions and will develop staff and equipment to enable them to do really advanced work. They may, that is to say, approximate to the technological institutes of Great Britain, and may then take over a certain amount of the technical and commercial work now done by the University Colleges. If New Zealand's secondary industries are not to fall hopelessly behind those of the rest of the world, we must find some method of giving the advanced knowledge and skills that industry becomes daily less able to provide.

C. E. BEEBY

CHAPTER TEN

NORTHERN IRELAND SURVEY OF RELATIONS BETWEEN ORGANISED INDUSTRY AND TECHNICAL SCHOOLS

(See also YEAR BOOK, 1932, pages 58-67, 166-73, 383-90, 1933, pages 58-62, 98-101, 1934, pages 240-44, 279-80, 1935, pages 42-5, 228-33, 1936, pages 589-600, 1937, pages 49-51, 1938, pages 607-11)

Introduction

TECHNICAL instruction in the sense in which the term is now understood came into being in Ireland at the beginning of the present century. The functions of the South Kensington Science and Art Department, so far as Ireland was concerned, were transferred about that time to the newly created Department of Agriculture and Technical Instruction.

The Act constituting the Department enabled urban and county borough councils to raise a rate not exceeding two pence, and county councils a rate not exceeding one penny in the pound, for the provision of technical instruction. An annual sum of £55,000 was at the same time placed at the disposal of the Department to assist those authorities which decided to set up schemes for the purpose.

The response was immediate and striking, particularly in Southern Ireland. Northern Ireland was more cautious and slower in making a move, but having satisfied itself of the value of the new proposals, it proceeded to go ahead, and, as its population is to a considerable extent industrial, it rapidly developed a widespread system forming the basis of the present organisation.

In the year 1922, the Government of Northern Ireland took control of the work and placed all three forms of education—elementary, secondary and technical—under the Ministry of Education for Northern Ireland. This change was received by those most interested in technical instruction with some misgivings. Technical schools had up to that time been controlled by *ad hoc* committees appointed by local authorities, but containing a considerable element of "added members" chosen by these authorities to represent industrial, commercial and educational interests. These committees were a very strong and valuable feature of the organisation, because through them education, in one form at least, came, for the first time in this country, under the control of popularly elected bodies. The representation of industrial and commercial interests, moreover, brought in types of members not always found on local councils, and ensured that the policy of the schools was designed to meet the needs of employers of all kinds. The fact that there were no other popularly constituted educational

bodies had the effect of making an invitation to serve on a Technical Instruction Committee a much-appreciated honour. It was feared that the merging of the administration of the three forms of education under one Ministry would place the local control of the technical schools in the hands of persons more interested in other work and less well disposed towards that form of education, and might result in a restriction of financial support. These fears were not altogether without justification at first, but sufficient time has now elapsed since the change to say, with confidence, that on the whole the schools have benefited by it.

Progress following Changes in Administration

That this is so may be seen by a brief general comparison of the position then and now. At the time of the change there were 39 technical schools in operation in Northern Ireland. There are now 60. Meantime, the number of students has grown from about 17,000 to 23,000. Statistics are of course often misleading and may produce a false impression, but in this case it is safe to say that the volume and value of the work have grown even more than the figures indicate. In fact the network of schools is so complete that in the more densely populated districts there is a technical school within a distance of five miles of all who wish to attend. The schools are not, of course, evenly distributed over the province. In the more populous districts, such as the area round Lough Neagh and the Counties of Antrim, Armagh and Down, where industry is most highly developed, the majority of the schools are to be found, but they are by no means confined to these areas. This distribution will probably be of great importance for the future development of education in the area, as will be shown at a later stage in this survey. It is mainly due to the wide demand for educational facilities of the kind which technical schools can provide, and thus in turn is the result of the confidence in the instruction inspired by the earlier teachers. In any event, it is quite clear that the people of Northern Ireland believe in their technical schools, and look to them not only as a means for the personal advancement of individual students, but also as a valuable and indeed a necessary support for their industry, trade and commerce. An indication of this may be obtained from the fact that in three of the urban districts with populations of between 12,000 and 15,000 the number of students in attendance, according to the last published returns, was 734, 953 and 1,202 respectively.

Value of Central College of Technology

The Belfast Municipal College of Technology, situated in the Capital of the Province, has usually some 7,000 or 8,000 students in attendance, and is thus one of the largest technical colleges in the United Kingdom. Naturally it caters for the industrial and commercial population of the city and provides an extensive range

of courses suited to the needs of its principal trades and industries, but it also acts as a central institution for the province in the sense that many students from outside districts are attracted to its classrooms by the fact that they can there obtain more advanced instruction or courses which are not available in their local schools. Up to the present this central institution has not been as fully utilised in this way by outside authorities as it might be, although a few students from outlying districts have been given scholarships by their local authorities to enable them to attend courses at the Belfast College. An influential committee appointed by the late Minister of Education, Lord Charlemont, which has recently been considering the general question of scholarships has recommended, *inter alia*, the adoption of a system "for transferring a student from a smaller (technical) school, incapable of providing for his requirements, to a larger school where more advanced instruction or instruction more appropriate to his needs can be given". Obviously, the cost of accommodation, equipment and teaching required for the full instruction of all types of employees in a small town or district would be beyond the resources of local authorities and would not be justified when the number of students requiring instruction of a particular kind is small. Such schools can do extremely valuable work of a preliminary or general kind, but they cannot provide a large variety of specialised courses.

The Establishment of Trade Scholarship Courses

This difficulty was realised at an early stage by the Department of Agriculture and Technical Instruction, and as a result of a study of the systems in operation in France and Germany for the training of young people in skilled trades and industries, it was decided to institute what were termed Trade Scholarship Courses. The systems in operation in the countries mentioned, while suitable for large cities such as Paris or Munich, could not be applied without modification in a country such as Ireland, which has few large cities but many small towns in which artisans must ply their trades. In such places there are always likely to be painters, plumbers, joiners, builders, cabinet-makers, motor mechanics, textile fitters, electricians, compositors, gas workers, chemists, grocers, drapers, hairdressers, waiters and the like. While the number of apprentices in any of these trades is generally insufficient to provide material for a class of reasonable dimensions, the technical schools usually provide instruction which forms a fitting introduction to more specialised training. Full specialised training can only be provided by bringing together apprentices from a number of towns. The Trade Scholarship Scheme was designed to do this, and it has been doing it to a limited extent for the last twenty-two years. The courses for students of the province are now always held in the Belfast Municipal College of Technology, where the necessary equipment exists and where highly qualified teachers are available.

A brief description of the scheme will show how it works. Every year the Ministry of Education, which has adopted and developed the scheme, advertises the fact that it is prepared to award a limited number of trade scholarships to apprentices who have had a good elementary education and who have been employed at their trades for not less than two years. The object of the latter restriction is to ensure that those who have been selected shall be persons who have definitely taken up their trade as a life occupation. They must sign an undertaking to return to their employer at the conclusion of the course and the employer on his side must agree to take them back. In fact, the courses form an integral part of the apprenticeship, and benefit not only the apprentices themselves, but also the employers, who thereby obtain far more competent employees, and the general public who profit by the thorough expert training provided in the courses. Everyone is agreed that the work done in these courses must be regarded as some of the very best that is being done in the technical school system. A student goes to the course at a stage in his career when he has at least realised the objects of his trade and the difficulties to be encountered. He goes, therefore, with a mind prepared to receive instruction, and for the period of the course, lasting generally from September to May, he is free to concentrate on acquiring not only skill in working, but also a knowledge of the principles involved in the operations, and such incidental information as may be necessary in science, drawing and mathematics. In any case the greatest keenness is shown by the scholars during their training.

Finance and Number of Trade Scholarship Courses

At present the number of trade scholarship courses held annually is restricted to four, each containing about fifteen students. The Ministry pays a maintenance allowance amounting on the average to £36 per student, and as the total amount available for the purpose is limited, it has not been possible to extend the benefits of the scheme as widely as is necessary to meet the needs of all types of skilled trades. In point of fact the demand for instruction from certain trades is so insistent that in recent years there has been no great variation in the courses conducted.

Actually seventy-six courses have been conducted during the past fifteen years, and they have been distributed as follows:

Electrical Installation	17 courses
Fitters' Work	11 "
Motor-car Engineering	11 "
Carpentry and Joinery	13 "
Cabinet-making	5 "
Painting and Decorating	5 "
Sheet-metal Work	4 "
Plumbers' Work	4 "
Ship Joinery	1 "
Bleaching, Dyeing and Finishing	1 "

The total number of apprentices who received instruction in these courses was 1,054. Employers have expressed the opinion that industries benefit considerably as a result of the training gained by apprentices who complete the courses of instruction.

It has therefore been recommended by the Scholarships Committee already referred to, that local authorities should co-operate with the Ministry in extending the scope of the scheme by contributing a portion of the maintenance allowances. This recommendation has been well received, and it is expected that the assistance given by the authorities will enable a much larger variety of types of apprentice to be provided for.

It will be apparent from what has been said that the principle underlying the method outlined is to give the fullest possible training to a selected few in the hope and expectation that those trained will become a source of light and leading in their own workshops. It is expected that they will consciously or unconsciously transmit the knowledge and skill which they have acquired at the courses to their fellow workmen and thus raise the standard generally. Experience has shown that this expectation is justified, and it is stated that, as an instance of the success of the system, there is now hardly a garage in the country which is not mainly dependent upon the skill and knowledge of an ex-trade scholar.

Training of Apprentices

Other and perhaps more usual forms of the sandwich system are also to be found in Northern Ireland, particularly in Belfast. Thus, a four-year course, attended by premium apprentices in the shipbuilding and engineering trades, and meeting for one full day per week, has for many years been in operation in the Technical College with the active support of the employers. Courses of similar duration, but meeting for two full days per week, now form a supplement to office training in the apprenticeship served by architects. Pharmaceutical apprentices can obtain instruction in the courses required for the examinations of the Pharmaceutical Society of Northern Ireland by full-time attendance during a period of two years, but they may, and more frequently do, spread the work over a longer period of part-time attendance. For apprentice bleachers and dyers there is a three-year course meeting for two full days per week except in the third year when one day per week suffices. One of the most recent, and in some respects most interesting, developments is the outcome of an agreement made with employers in the printing trades, whereby those who wish to become apprentice compositors are selected by a committee representative of the trade and the College and spend a year in full-time attendance in the printing trades department of the College before actually becoming apprenticed. The number admitted to the course is naturally restricted so that all may be absorbed at the end of this preliminary year.

A survey of the relations between organised industry and the technical schools and colleges would be entirely misleading if it did not bring out the fact that the main bulk of the instruction continues, and must, under the present voluntary system, continue to be given in evening classes. So long as the great majority of boys and girls leave school shortly after reaching the age of 14, evening classes on a large scale will be necessary, but there has been a considerable change in the attitude of employers in recent years, and a great many of them now look for something more from their employees than the completion of the elementary stage of education. This accounts for the marked development of day schools in connection with the technical schools. Schools of the junior technical type have been in existence for a good many years, but they have increased in number, enrolment, prestige and importance under the care of the Ministry. In Northern Ireland the fourteen junior technical schools give a more general type of course than is frequently the case in England. They endeavour to provide a course which will form a fitting basis for an entrant to any type of trade or industry. And they have been admittedly extremely successful in doing so. The instruction is both wide and intensive. It covers all that is essential for a sound general education, but it lays special emphasis on mathematics, science, mechanical drawing and hand-work in wood and metal. From the first it has sought to proceed from the concrete to the abstract, and the effect of this method upon the pupils has been remarkably beneficial. Certainly, the pupils turned out by the schools are in great demand by employers, and many of the former pupils now occupy positions of high responsibility. Moreover, a large proportion of ex-pupils attend the evening technical schools, and are there found to be excellent material for further instruction.

Two other types of day school have also evolved to meet definite needs. One of these is the junior commercial school, of which there are now twenty-four examples. At first this type of school was not at all well organised, but it grew naturally out of a demand, and it is now as well organised as the junior technical school. It provides a broad course suitable for those young persons who intend to enter business concerns, whether as clerks or as shop assistants, and indeed some are successful in entering the Civil Service as shorthand-typists. The other type is of more recent introduction. It is the junior domestic school. It is rapidly growing in popularity, especially in the more rural parts of the country. Obviously, there are many girls who do not intend to enter professions or take up business careers. Their outlook is rather domestic in character, and the junior domestic school in a two-year course provides them with a full training suited to their purpose.

Summary of Apprenticeship Training

Such are the means taken by the technical schools to prepare young people for entry into trade, industry, domestic occupations

or commerce. According to the latest returns there are upwards of 2,500 pupils in attendance annually in these junior schools, and the number is growing, but it is doubtful whether 10 per cent of those who become employed for the first time in any year have had a junior technical or commercial training. There is, however, a prospect of a considerable development in the near future. A Bill is at present before Parliament for raising the school-leaving age to 15. This Bill differs in two important respects from the Act recently enacted with the same object by the Imperial Parliament. In the first place, it allows a child the option of attending day classes at a technical school or rural centre for not less than fifteen hours weekly instead of continuing to attend a public elementary school for the additional year. In the second place, it lays upon the employer who engages a child between the ages of 14 and 15 a statutory obligation to allow him, wherever possible, to attend some appropriate day school for not less than six hours weekly, otherwise an employment certificate will not be issued to the child. These proposals, if passed into law, as it is expected they will be, will undoubtedly have the effect of extending greatly the influence of schools of the junior technical type and of improving the preparedness of a much larger number of young persons for employment. But they are also well calculated to assist in cases where employees of the age-group 14 to 15 who have obtained "beneficial employment" become unemployed for any reason. Such young persons can then comply with the law by increasing their attendance at a technical school from a minimum of six hours to a minimum of fifteen. These provisions would not have been possible without the wide distribution of schools and the confidence in their work referred to earlier in this survey. To provide adequately for young persons engaged in agriculture it is expected, however, that additional centres in certain rural areas will be required, and the County Agricultural Committees are expected to co-operate in the instruction.

The Training of Persons engaged in Work

The arrangements which exist and which are in contemplation for the previous preparation of employees and for the training of selected individuals engaged in skilled trades having been described, it remains to consider the much larger mass of young persons engaged in work for which they may or may not have had some special preparation.

But first it is well to bear in mind the nature of the economic interests of the people of Northern Ireland. The province is, of course, mainly agricultural, but it has two large industries, linen manufacture and shipbuilding, besides numerous others of less economic importance. Indeed, a large variety of products in daily use is manufactured here. It must also be remembered that Belfast is not merely a great manufacturing city, it is one of the

chief ports in the United Kingdom. The great bulk, not only of the exports but also of the goods imported for use in the province, pass through the port. Consequently there is a well-developed distributing trade.

The Function of the Technical Schools

One function of the technical schools is thus to provide instruction in a large range of skilled trades. Incidentally it may be mentioned that an industry like shipbuilding employs tradesmen and apprentices belonging to numerous trades. Another function is to give comprehensive courses of instruction in the principles underlying the main industries of the country. It is therefore not surprising that courses in mechanical and electrical engineering, in naval architecture and in textiles are highly developed in the Belfast College of Technology, and indeed are recognised by the Queen's University for the purpose of degrees in applied science. Applied chemistry is recognised in a similar way. Commercial courses taught in the technical college may also be taken up to degree standard. Finally there is the work done in domestic economy courses in this subject are invariably provided in the schools, and they are not only very popular with young women, but they enable them to make the best use of the resources available in their homes. The work in domestic economy reaches its apex in the Training School for Domestic Teachers and institutional housekeepers conducted in the Belfast College, and its trainees are recognised as teachers by the Ministry of Education for Northern Ireland and the English Board of Education.

It will be understood, however, that, since the schools vary greatly in size, some of the smaller ones in places which are not even urban districts having less than one hundred pupils, the scope of the instruction in any individual school must be regulated by the facilities available as well as by the needs and outlook of its pupils.

Reorganisation of Examinations

An account of the work of the technical schools would be incomplete without a description of the means taken to ensure its efficiency. It will be remembered that early in the century the Board of Education discontinued the science and art examinations which had been utilised to some extent by the schools as an independent measure of the progress made by their pupils. Some such tests are necessary, if for no other reason than that the pupils themselves desire them. Consequently the Department of Agriculture and Technical Instruction, which was at that time responsible for the schools, decided that a new set of examinations must be organised not only to take the place of the science and art examinations, but also to provide tests which would be a better and more helpful guide to teachers. Instead, therefore, of the examinations in individual subjects, it set up a system of course examinations. Students were thus encouraged to take examinations in mechanical

engineering, building, naval architecture, commerce etc., rather than in machine drawing, heat engines, building construction, geometry, book-keeping, etc. The setting up of these examinations was a difficult and onerous task because at the time there, etc. no suitable models elsewhere. The main difficulty was to decide what matters might safely be excluded from the curricula, not what might be included, for with the limited time available to evening students it is of vital importance to exclude all that is clever but unnecessary, and even much that is of minor value. The assistance of the best and most experienced teachers was called upon to determine the content of each course and as a result, suitable and valuable courses which have stood the test of time were evolved. Minor alterations have of course since been made as the need arose. Each course centres round a main subject but includes necessary subsidiary subjects. The courses are designed to provide material for four years' study, but some include a fifth or bonus course.

At present, examinations are conducted annually in the courses commerce, building, applied chemistry, electrical engineering, mechanical engineering, mechanical engineering, naval architecture, domestic economy and art. It should also be mentioned that in England, when it became clear at a later date that some uniform system of examination for technical school students was necessary, the Board of Education organised a system of National Certificates with the assistance of certain professional associations, not only the Institute of Chemistry and the Institution of Mechanical Engineers. It is not to be expected that the certificates issued by the Ministry of Education on the results of its Technical School Examinations should be as widely known as the National Certificates, and since Northern Ireland students often pass to other parts of the United Kingdom, it was thought desirable that an opportunity should be afforded them to secure National Certificates. For this reason, in the session 1925-6 arrangements were made with the Board of Education and the two professional associations mentioned above, for the award of Ordinary and Higher National Certificates to Northern Ireland students. The third-year examinations of the Ministry, subject to compliance with the prescribed conditions as to attendance, homework, class and laboratory work, etc., are accepted for the award of the ordinary certificates. The schools in which candidates are taught must satisfy the Ministry and the institutions named in regard to equipment, the qualifications of the staff and the various curricula and syllabuses of instruction. Belfast and some of the larger schools regularly present candidates for the Ordinary National Certificates in mechanical engineering and Belfast also presents some for the Higher Certificate.

It may perhaps be thought strange that the Ministry conducts no course examination in linen manufacture. The reason for this is that the examinations of the City and Guilds of London Institute have always provided what are regarded as satisfactory tests, and

in addition, the degree of Queen's University is available for those who aspire to the highest and most comprehensive training. The examinations of the City and Guilds are also used by the schools for testing students in certain trade subjects such as joinery, cabinet-making, plumbing and bleaching, and dyeing.

Alteration in System of Grants

The whole organisation of the evening technical schools has, for the past thirty years or so, been based on the course system. For a few years previous to this period students were under no obligation to follow any definite course of instruction: they might if they desired take a single subject or any combination of subjects that they wished. This naturally led to much waste of effort on the part of teachers and students, and accordingly the system of payment of grants for attendance was entirely altered. Grants ceased to be paid for single subjects, except in certain special cases, and were made only on the attendances of students who took approved courses and were qualified by their previous training to profit by them. Although, at first, principals of schools found some difficulty in persuading students to follow systematic courses, that difficulty has long since disappeared, for it has been realised by all concerned that real progress is hardly possible in any other way. Every inducement is given to the schools to retain their students until they have completed their courses, for the rate of grant per student is doubled in the third and higher years: it is also higher for technical subjects than for commerce. It will be noticed that the system of payment of grants dovetails into the examination system, and both aim at getting students to follow organised courses of instruction calculated to give them a good knowledge with a sound mathematical and scientific basis wherever that is essential. Recent reports published by the Ministry of Education show that the object of the twofold influence of the course examinations and the system of attendance grants has been successful, for the statistics given indicate that the school life of the average student is between three and four years.

The Training of Teachers

Any system of education ultimately depends for its efficiency on the qualifications, ability and contentment of the teaching staff who operate it. Northern Ireland has been very fortunate in its technical teachers. The appointment of teachers rests with the education authorities, usually advised by a technical sub-committee, but all appointments are subject to approval by the Ministry of Education, which indeed publishes a list of qualifications for the various types of teacher which it is prepared to accept. It does something more positive than this. It awards a few valuable scholarships annually to teachers or intending teachers to enable them to obtain the highest available training in their own particular

subjects. It has sent many teachers of building trades to the School of Architecture in London for a three-year course, it has sent others to the Imperial College of Technology for mechanical or electrical engineering, others again to the Royal College of Art or to the London School of Economics. Its object is to form a cadre of teachers able to give the most advanced instruction of various kinds and eventually to be capable of assuming the highest responsibility in the direction of the schools. Here, again, the policy of the Ministry has justified itself by results, for although such a policy is necessarily slow in action, it has now been carried on for a sufficiently long period to be able to say that many of the men who have been trained through the medium of these scholarships already occupy positions of great responsibility in the system and elsewhere.

Teachers' Salary Scales

One of the earliest acts of the Ministry was to draw up scales of salary for its technical teachers. Up to that time teachers were usually appointed at fixed salaries with the appropriate cost of living bonuses, and if after a few years they wished for an increase there was frequently some difficulty in obtaining it. A departmental committee was given the rather complicated task of recommending scales of salary suitable for the various types of teachers employed in the schools. When the great variety of the schools is remembered—some very small, others of medium size, and Belfast with its large college containing numerous departments—and when to this is added the great variety of subjects taught, it will be realised that the task was not only complicated but difficult. It was solved by prescribing a number of scales appropriate to the qualifications required for the work, the nature of the work and the responsibility attached to it. Actually there are now in operation some fifteen scales applicable to teachers of technical schools. They apply not only to assistants but to heads of departments in the Belfast Technical College and to principals. One of the chief difficulties in assigning a suitable scale of salary to the principalship of a technical school is that the considerations which apply in the case of elementary or secondary schools are inapplicable in technical schools. There is no compulsory attendance as in the case of an elementary school, and no simple way of estimating the importance of the school by counting heads as in the case of a secondary school. Consequently a different principle was adopted. The scale of salary was made independent of the actual number of pupils. It was based on the size of the population served by the school. On the whole, this is a satisfactory basis, for though it is true that an energetic principal can and does attract larger numbers to his school, the less energetic principal is liable to suffer in public estimation by comparison. Certainly the fixing of scales of salary which were accepted as on the whole generous and well adapted to the conditions gave general satisfaction to the teachers, a satisfaction which was subsequently increased by the introduction of a superannuation scheme.

Conclusion

The success of a technical school depends upon having someone in charge whose main interest is to develop its work and increase its usefulness to the community to the utmost extent. A person whose chief work lies elsewhere is unlikely to make a technical school a success. The same may be said of other educational institutions, but not perhaps to the same degree, and this for two reasons peculiar to technical schools. One is that the attendance is voluntary, and the instruction must therefore be attractive, clear and useful. The other is that the organisation must be designed to meet the needs of local trades and industries as well as to be helpful to employees. For these reasons every school in the province has a principal who is a whole-time officer, though in the case of very small schools one principal may be in charge of two or three schools. Most principals do what they can, by visits to factories, contact with employers and other means, to keep in touch with industrial methods and requirements, but their other duties prevent them from visiting industries and studying new developments as frequently as is desirable. Assistant teachers are in no better position in this respect. Therein lies a weakness. To a certain extent it is corrected by the utilisation of experts as part-time teachers. Refresher courses can also be very helpful, and authorities have now power to allow teachers to attend such courses during term time, and to assist them to do so, or even allow them to go back into industry for periods not exceeding two months in any year. It is doubtful, however, whether the link between the technical school and employment of all sorts is as strong as it ought to be. The part-time expert introduces by his experience of practical methods an element that appeals strongly to the student, but he may not be skilful as a teacher since his teaching is a side issue in his life. On the other hand, the full-time teacher may tend to let his instruction become stereotyped and get out of touch with modern developments, particularly if his teaching duties are heavy. Nevertheless, the work done in the schools is looked upon with much favour by employers of all kinds, and they regard it as a valuable aid not only because of the knowledge and skill which their employees acquire, but perhaps even more because of the intellectual training involved. It is not possible to estimate with precision the social and economic effects of any system of technical education, as they are not immediately apparent, and indeed are even more important from the mental and moral points of view than from the material, but the best indication that can be obtained of their beneficial nature is the warm support given to the instruction by employers, who in many cases give increased wages and other advantages to earnest students and by the employees themselves.

HENRY GARRETT

CHAPTER ELEVEN

TECHNICAL (VOCATIONAL) EDUCATION IN THE UNITED STATES

The American Conception of Technical Education

ON all school levels, except the elementary and at all ages from adolescence to the middle life, vocational education has, within the last ten years, become a paramount issue for schoolmen, for employers, for parents and, above all, for youth itself. The recurring depressions, closely associated with technological changes, both as a result and an acceleration, have emphasised the advantages of the worker with superior training, while, at the same time, they have deepened the despair of the poorly trained and the untrained. Institutions of learning, on the secondary, college and university level, have obviously failed to equip their graduates for carrying. All of which has given a new impetus to the perennial argument regarding the relative advantages of academic and of vocational education, with the net effect of heightening the respectability of vocational education in professional and popular literature and of directing community forces towards the training of both young and old people for adequate carrying.

In the American vocational education is usually of "less than college grade", that is to say it is given to those who at best have completed only an academic high school education and do not wish to enter an academic college. For those who have never gone to work, the age range is from 14 to 20 although it is rapidly shifting from a minimum of 16 to a maximum of almost 25. For adult workers who wish to improve their skills or to learn new skills, there is no limit. This vocational education is essentially for trades, but includes agriculture, commercial work, maritime occupations and home-making, as well as trade and industry. Technical education, in the American sense, may be on any level but instead of being for manual occupations, confines itself to professions and semi-professions requiring a high degree of scientific knowledge, and is concerned usually with co-ordination and power. It is education for "engineering," again used in the American sense. This survey will deal solely with vocational education as given in the public schools in which tuition is, not only free, but in which, in many states, attendance is compulsory in the sense that attendance upon some type of school is obligatory up to the age of 16, 17 or 18.

Technological Trends

The keen realisation of the effect of technological changes upon all of life, and especially upon education, is indicated by several important studies and reports. The first of these is a product¹ of a

¹ National Resources Committee. *Technological Trends and National Policy*. Washington, United States Government Printing Office, 1927.

group of four Cabinet members, the Works Progress Administrator, and several prominent citizens of authority—a scientist, a lawyer, an employer and a social worker—all appointed by the President.

For our purpose the most important findings are that the large number of inventions made every year shows no tendency to diminish, but rather to increase, that although technological unemployment is one of the most tragic effects of the sudden adoption of many new inventions, inventions create jobs as well as take them away, that no satisfactory measures of the volume of technological unemployment have as yet been developed, but at least part of the price for this constant change in the employment requirements of industry is paid by labour, since many of the new machines and the techniques result in "occupational obsolescence", that the question whether there will be a large amount of unemployment during the period of business prosperity rests only in part on the introduction of new inventions and more efficient industrial techniques, that, aside from jobs, subtracted or added, new inventions affect all the great social institutions, family, church, local community, state and industry, that, from the early origins of an invention to its social effects the time interval averages about thirty years, and that the time lag between the first development and the full use of an invention is often a period of grave social and economic maladjustment.

The Need for Planning

The recommendations of the Committee are centred upon the necessity for planning—planning for research on the most important of the mechanical inventions, such as the mechanical cotton picker, air conditioning, equipment, plastics, the photo-electric cell, artificial cotton and woollen-like fibres made from cellulose, synthetic rubber, prefabricated houses, television, facsimile transmission, the automobile trailer, gasoline produced from coal, steep-flight aircraft planes and tray agriculture, planning not only to keep abreast of technological changes, but to note and ascertain the occupations and industries which are likely to be affected by them, especially as to unemployment, finally, planning for an overall planning board which will study the effect of all changes upon the social structure of the nation.

Economic Trends

It is not difficult to deduce the consequences for the worker and to gain an inkling of the effect it must have upon his training. Not so long ago we spoke of the new industrial revolution, but in these later years this revolution has become the normal way of economic life. For the past eighty or ninety years it has not been really new. It is probably just as much commercial as industrial. Whatever it may be called, it seems to be fairly well comprehended in the following nine statements.¹

¹ Keller, Franklin J., "Recent Trends in Vocational Education in the United States," *Internationale Zeitschrift für Erziehungswissenschaft*, Köln, 1931.

(1) Give as much work as possible to machines and to system
Give as little as possible to men

(2) Never give to any man work which another man of less ability can do equally well, so far as the finished product is concerned

(3) The entire economy of the machine age is involved in mass production

(4) The tendency is to eliminate competition, duplication, waste, by merging, "rationalising," combining resources until the last cent is squeezed out of the materials of the earth, working the machine to its utmost capacity, and relegating the human being to those jobs which are left after he has designed and created his Frankenstein

(5) Technological tenuousness has caused the industrial fabric to become so complex that a failure of any one part can affect the welfare of people thousands of miles away and the breakdown of one industry can paralyse a whole nation

(6) Whether technological unemployment is any more severe now than at any time since the introduction of machinery is a question, but it is certainly with us

(7) Obviously, with machines taking the place of men, with machines becoming more and more effective, precise, more humanly skilful (except for the man who designs the machine or makes the original tools or dies), less and less skill is required of the man tending the machine, of the man doing any kind of work

(8) Changing technology, specialisation, has in many cases brought about an overlapping of crafts such as removes the lines that distinguish the skills of one worker from those of another

(9) With the increasing pace of industry and life in general, mental unbalance grows apace. The machine and its accompaniments seem to be doing something sinister to the mind of the worker

These are generalisations. There are strong arguments for the probable return of craftsmanship, of personal service, of the human element necessary for worthwhile products. However, allowing them all possible importance, there would seem to be a tremendous preponderance of mechanisation which, if it is to be counteracted at all, must be attacked from a different angle. For instance, everybody concedes that if the products of the machine could be sold cheaply enough, the demand would keep everybody at work despite the machine, and one would earn enough to buy the product. How to perform this economic miracle for any length of time over any considerable area is still one of the modern mysteries. However, despite its baffling nature, there are implications for vocational education of to-day, and we shall return to them.

Federal Planning and Vocational Education

For eighty years vocational education has been the one type of education to receive financial aid from the Federal Government, first on a small scale through the so-called Land Grant (Agricultural)

Colleges, and for the last twenty years on a large scale through the Smith-Hughes, Smith-Lever, George-Elzey and George-Deen Acts. During times of depression, the difficulties of local communities in financing education have led to demand for Federal aid to all types of education. The wisdom of stimulating just one type of education has been questioned. Therefore, in 1936, the President appointed a committee to "study the experience under the existing programme of Federal aid for vocational education, the relation of such training to general education and to prevailing economic and social conditions, and the extent of the need for an expanded programme, and to develop recommendations that would be available to the Congress and the Executive." In 1937, this commission was extended to a "consideration of the whole subject of Federal relationship to State and local conduct of education." Certain features of the final report¹ have given rise to violent criticism, especially in its financial phases, but as to the rôle and importance of vocational education, there is no difference of opinion.

The Committee's Conclusions

"The Committee believes strongly that there are few educational problems now before the American people to which they should give more earnest thought than the need for sound and adequate programmes of vocational education. In these days of economic insecurity there are few phases of life more vital to young people than getting and holding jobs. All schools, and particularly all secondary schools, must seek to improve the preparation they give for the world that awaits their pupils beyond the classroom.

"The schools for many centuries have furnished the basic training for certain occupations. The traditional programme of the secondary school was largely a preliminary preparation for the professions of law, medicine and theology. Subjects such as Latin were originally included in the curriculum because they were the indispensable tools of the learned professions of the day. As times changed and those subjects no longer were needed for clearly vocational reasons, they came to be defended by those with vested interests as necessary for general educational purposes, and were retained in the general curriculum.

"With the great expansion of recent years in high school enrolments, the traditional programme has become clearly unsuited to the needs of the majority of the pupils, most of whom will not enter the professions. The schools have not moved rapidly in making the necessary changes in their programmes, although gradually they have recognised the necessity for instructional facilities designed to give young people preliminary preparation, not only for the professions but also for a wide range of non-professional occupations.

"Vocational education may be broadly defined to include all those experiences whereby one learns to carry on a useful occupa-

¹ The Advisory Committee on Education. *Report of the Committee*. Washington, United States Government Printing Office, 1938.

tion All education serves this end to a certain extent, although it is customary to distinguish between instruction that is directly related to the vocational objective of an individual and that which is general or non-occupational in its purpose The importance of this distinction is often overstressed, particularly when vocational education is defined narrowly to include only the specific preparation applicable to a relatively highly specialised type of employment The important fact is that education for the individual is a unitary process, not to be sharply differentiated into that which is solely for vocational ends and that which is general in purpose

"Particularly in a democracy, based on the absence of class distinctions, is there need to maintain unity in the educational system. European educational organisation, based on a two-class system of society, furnished no appropriate model for the schools of the United States. The dual type of school system maintained by most of the countries of Europe, with one set of opportunities for young people who are to enter the professions and another for the working classes, must be avoided in this country if the purposes of American democracy are to be achieved.

"The only satisfactory organisation for schools in the United States is a unified educational programme that will offer each pupil the opportunities best suited to his particular abilities. In other words, the plan of education should be broad enough to provide the necessary opportunities for vocational education without sharply segregating them and setting them up under separate organisations.¹

"For twenty years vocational education of an intensive and specialised type has been promoted in the public secondary schools of this country by Federal grants that increased to \$10,377,581 during the fiscal year ending June 30th, 1937. Under new legislation which recently became effective, the Federal grants now authorised amount to \$21,785,000 annually. The grants have been authorised for vocational education in home economics, agriculture, trades and industries, and the training of teachers for these fields. Beginning in 1937-8, training for distributive occupations is also included."

Education for the 85 Per Cent

Both of these President's committees have been lay committees, in so far as education has been concerned. On the Advisory Committee on Education there was not one member who was in

¹ It should be noted here that while there is general acquiescence in the philosophy of the Committee, agreement as to practical measures depends upon the definition of "separate organisation." Purely academic education and purely vocational education may not mix in the same building, although they may carry on happily on opposite sides of the street and in the same city system. An academically trained principal may denature real vocational education, and a vocationally trained principal may dilute academic education. Farther on in this survey we shall discuss practical measures within the outlines of the Committee's philosophy.

first-hand contact with secondary education, and certainly not with vocational education. This accounts for some of the short-sightedness as well as for the wisdom in the report. However, from the United States Office of Education comes a presentation that smacks more sharply of the professional educator as well as of the philosopher. It should be noted that, generally speaking, the Office of Education is not an administrative body. Until recently its main function has been the dissemination of information in the field of academic education. The Federal Board for Vocational Education was a quasi-administrative body in that it set the standards and inspected the accomplishments in connection with the disbursement of the funds mentioned in the preceding paragraph. However, a few years ago it was merged with the Office of Education and became a division of that office, and the Commissioner of Education speaks for all types of education. He voices the growing conviction that education must deal with the whole individual, and that this wholeness must in no sense slight the vocational.¹

"With the passing of time and development of a more and more mechanised industry, vocational education is necessary for an increasingly large percentage of young people. Since 1890, the gross population of this country has increased from 63,000,000 to 128,000,000, or 105 per cent. But in the same period the secondary school enrolment increased from 203,000 to more than 6,000,000, or 2,855 per cent. In 1890, the relatively few secondary school students, following academic courses, were preparing to enter college, where they would, in turn, pursue additional academic courses as a basis for professional careers. Now, the secondary school, a truly democratic institution, enrolling millions of young people representing a full cross-section of our entire population, has the same responsibility to start its students on the way towards their careers, but for many millions of those enrolled these careers are not the professions. The fundamental purpose of organised education is the same to-day as it was a half century ago, namely, to accelerate, through systematically planned experiences, the rate at which learners might otherwise gain an understanding and develop competence for practical action. Throughout the past decades the need was for a flexible adaptation of this basic purpose to the widely diversified range of human services demanded by the growing complexity of modern society.

"General education cannot really achieve its purposes until it is permeated with a spirit of genuineness and reality in its relation to life situations. Studying about something must be supplemented by the means of working with that something wherever possible. The compelling interest in preparing oneself to earn a living should be utilised far more widely than it is. The English teachers should use it. The whole secondary school faculty in a measure should become vocational teachers. Likewise, the members of the voca-

¹ Studebaker, John W., "Education for the 85 Per Cent." *American Vocational Association Journal*, February 1938.

tional education staff should comprehend their function as teachers of general education

"There are not two kinds of education applicable to most secondary school students. There is *an* educational programme needed by the 85 per cent, not two programmes. That programme should rest upon all those interests which stir the lives of adolescents. That programme should recognise that among those interests none is more dominant than fitting oneself for earning a living.

"But it should be equally recognised that there is no clear and complete demarcation between the interest in earning a living and the other interests of the adolescent youth. His interest is in health, in being popular, in mating, in facts about plant life, about animal life and about the workings of man's mind, these and other interests, integrated with those connected with making a living, should be the basis of a unified course of study. We need not less vocational education for the few, but more vocational education for the 85 per cent.

"I realise that unless wisely managed this attempt to operate an integrated secondary school programme may mean merely to motivate general education through the students' interest in vocational subjects. Of course, that must be avoided. *Vocational education must not be spoiled. Its fundamental purpose, which is to prepare young people to earn a living, must not be thwarted.* On the other hand, it must be clear that vocational teachers are interested in seeing to it that workers possess wide social interests. Therefore, in so far as it can legitimately be done, vocational education, as well as industrial arts, may properly help to motivate an all-round general education."

The Commissioner notes three implications arising from his contention. First, vocational teachers in such an integrated school programme should possess, in addition to occupational competency, a broad general education; second, since vocational purposes and motives should permeate widely throughout the curriculum, far greater vocational education facilities than at present will have to be provided; and third, since the virtue of vocational education as a motivating force in general education is the fact that it provides real-life situations with which students can deal, it follows that the nearer the vocational course can approach actual occupational conditions, the better.

Platform of the American Vocational Association

The Advisory Committee on Education has referred to such subjects as Latin, which were originally included in the curriculum because they were indispensable tools of the learned professions of the day, but as times changed were retained and defended by those with vested interests as necessary for general educational purposes. Vested interests, in all fields of endeavour, have always been a stumbling-block to progress, and, curiously enough, they appear in vocational education, which was, in itself, a reaction to the purely academic form. The American Vocational Association, a body of

16,000 teachers and administrators, has, until recently, largely inclined to the opinion that the function of the vocational school is to teach specific, standard trades, and that this is to be done with little relationship to the work of the other schools in the community. However, during the past few years there has been a growing conviction that vocational education is something much broader and more significant. Under the leadership of a new president, and with the co-operation of the Executive Committee, a committee drafted a platform which, at the Baltimore convention of December 1937 was unanimously adopted by the Association.¹

Obviously, the significance of this platform is that it is the expression, not of a lay body or even of an educational official, but of the rank and file whose daily task is to carry out the purposes of vocational education. It deserves quotation in full with some editorial comment.

(1) *Occupational Adjustment*

"With the complexity of modern economic life, the adjustment of the individual to the problems involved in earning enough income to permit at least a minimum standard of living is an essential service in public education. The minimum factors of adjustment to be interpreted in terms of educational service are the selection, training, placement and advancement of every individual in that work which he is best fitted by temperament and capacity to perform. Occupational life includes activities and duties ranging from the simplest to the most complex. Individuals differ in their potential vocational abilities. It is the function of occupational education to develop each individual to his highest vocational potentiality, always with reference to his employability at the level for which he has been trained, with continuing opportunities for promotion and readjustments as occupational changes require.

"Education for specific vocations is an integral function of the school in the adjustment of the individual. Such training will be effective to the degree that (a) students are wisely guided, (b) the content of instruction is based upon scientific analysis of occupational requirements and abilities, (c) the technique of instruction is adapted to the needs and aptitudes of individual pupils, (d) the school provides an adequate record of achievements and potential abilities of individual pupils in order that they may be effectively inducted into employment, and (e) the vocational training is integrated with the social-economic, general services of education, and follow-up opportunities on a learn-while-you-earn basis after employment is begun.

(2) *The School Programme*

"In recognising the adjustment factors indicated above, each community should maintain the following: (a) Adequate counselling

¹ "Platform of the American Vocational Association." Prepared by Arthur K. Getman, President, and Franklin J. Keller, Oakley Furney and Edwin A. Lee. *American Vocational Association Journal*, May 1937.

and guidance service for youth and adults, (b) adequate personnel, equipment and facilities to maintain vocational curriculums and courses for youth and adults designed to prepare them for employment in specific occupations, (c) provision for placement in wage-earning employment through the established public and private agencies, (d) co-ordination of the services of agencies, competent to assist the individual in adjusting himself to employment opportunities—these agencies include all departments in the public school, employer and employee associations, and such groups as farm, professional, welfare and civic organisations, (e) an organised means for developing the school services as a focusing and radiating point for bringing all educational services of the community to bear on the adjustment of the individual.”

This conception of vocational education is a tremendous advance upon the old one. Trade schools were devoted to the training of several types of workers, such as machinists, carpenters, cabinet makers, electricians and plumbers. Boys applied for admission to one of these courses and were admitted with little reference to their probable success and were dropped when they failed to make progress in that particular trade. The idea of taking every possible measure to give the individual training in terms of his particular interests, capacities and abilities was non-existent.

(3) *Co-ordination*

“The theme of every great educational reform and reformer from Rousseau to Spencer or Dewey, and our present agitation for curriculum reconstruction, is a plea for a return of education from the artificialities and sterilities of formalised schooling to training through the stimulating realities of life as it must and ought to be lived. In every community, in its houses, farms, stores, offices and factories, are to be found ready at hand the occupational life problems that make real life vocational curricula, the legion of specialised vocational teaching talent needed to train youth and adults to solve them, and a wealth of teaching equipment and materials that no school can afford to buy, maintain and replace in the rapid obsolescence of modern life. In this respect, therefore, public vocational education is the function by which these potentially great faculties and rich laboratories of the community must be co-ordinated with the vocational guidance and training needs of its citizens.”

For a long time vocational educators, for the most part, looked upon vocational guidance as something apart from vocational education, a more or less harmless fad of the general educators. The pupil was admitted and dropped in much the same fashion as the worker was hired and fired—trial and error, success and failure, and nothing in between. The readiness to adopt the techniques of guidance (happily supplemented by, and made valid through, the incomparable try-out opportunities provided by vocational education) is a most encouraging aspect of modern vocational education.

(4) Financial Support

"We believe in the public support of education, shared proportionately by the community, by the State, and by the Federal Government, in accordance with a basic policy which recognises (a) the equalisation of the burden of support, (b) the maintenance of a minimum programme of instruction, (c) the provision of adequate professional leadership and supervision, and (d) the provision of special subsidy for highly specialised types of instruction, and for neglected groups"

In its early days the general educators conceived of trade schools as a fit refuge for all the academic failures rather than as a training-ground for competent, intelligent workers. In self-protection, the trade school men bade for only bright boys and trained for only the highest type of skill. The result was that a considerable section of the adolescent population fell between the academic and the vocational stools and became neither proficient scholars nor competent workmen. The recognition of neglected groups and the realisation that work is performed on all levels of skill mark a significant forward step, not only in vocational training, but in the entire field of education.

(5) Adult Education

"Occupational adjustment is one of the central problems of adult life, therefore, it is of the utmost importance that the programme of public education include the facilities and personnel to assist the adult individual to adjust himself to changing economic, social and technological conditions. This type of education requires techniques and procedures of counselling, training, placement and advancement which should centre always in the needs, desires and aptitudes of the adult. For the individual this is an evolving process from school-leaving to the end of the earning period. It may include education for advancement, rehabilitation, retraining or replacement and should be supplemented by avocational education, and instruction for leisure time and for social-civic responsibilities. In view of the rapidly accelerating changes in methods of production, due to improved machinery and changes in materials, we believe careful attention should be given to a study of obsolescent processes and products with a view to giving training which will enable the worker to shift readily from an obsolescent vocation to one which is growing.

(6) Economic Stability

"Equality of the individual before the law, a voice in government and a chance to do the work in the world that his talent, initiative and character warrant, constitute a cherished ideal in American life. Equality of opportunity is essential for each citizen in obtaining gainful employment and economic security. Thorough occupational education is the surest guarantee of the well-being of the worker in his search for social stability. Such education is not a guarantee against unemployment or poverty. However, when

dependency comes through no fault of the individual, adequate guidance, vocational training and placement are of first importance in helping him to make the necessary adjustments. The means for regaining self-respect and self-support embody a basic step in helping each worker to carry his own economic load and to share in protecting his old age against want.

(7) *Research*

"National health, prosperity and well-being depend largely upon the findings of research and their use in bringing the greatest good to the greatest number. We have come to the end of free expansion by migration, and of free exploitation of the resources of nature. Further increase in population, physical comfort, cultural opportunity and purchasing power will depend upon the wise use of material and human resources that we now have, through scientific research. Such study is a productive investment, proven by experience to yield substantial return. New methods, new products, new markets and new jobs are made possible by research and are the means by which man's work is made more productive.

"Securing and accurately interpreting the evidence with reference to the needs and services of vocational education will yield a high rate of return in equipping youth and adults to carry their economic loads. The same native intelligence, enterprise and courage to pioneer that made this the most prosperous of nations will function to-day if the light of scientific research is shed on the problem of providing an adequate load for the individual to carry, and of preparing him to carry it."

While general education has been shot through with research, vocational education has up to recently failed to avail itself of its benefits. True, much has been done in the analysis of skills and knowledges required for specific occupations, but little to aid in selecting those individuals who are likely to succeed in them or in determining the extent to which they succeed when they actually pursue them for any length of time. There are only a handful of psychologists who have applied either themselves or their psychology to the task. However, within the last two years both the United States Employment Bureau and the American Vocational Association itself have organised programmes that should be productive of much useful information. These will be referred to again.

(8) *Democratic Ideals*

"Occupational education in a democracy should be in agreement with the basic social values, aspirations and ideals which reflect the American way of life. This education, as a part of the public school system, should be regarded as a primary agency of society to develop in the individual the competence, the creativeness, the initiative, the technical understanding, the vision and the social ideals which will enable him to become a faithful citizen, a worthy home member, a competent workman, and a strong character.

(9) *Adaptation*

"It is essential to test continuously, and from time to time to modify, the policies in occupational education. Changes should be made only after thoughtful consideration of pertinent facts, test experience and professional judgment. The need for such changes arises from one or more factors: (a) new knowledge developed through research concerning the learning process and the techniques of teaching, (b) variations in the student personnel to be taught, (c) changes in the social economic life in which the individual must adjust himself, and (d) advances in science and the contributions of technology which increase the productive power of the individual."

Philosophy and Practice

It is only through an understanding of the current of thought among both laymen and educators that prevailing practices can be understood and evaluated. It is for this reason that so much space has been allotted to these expressions of opinion. The remainder of this survey will be devoted to an exposition of recent experience and practice, with occasional reference to corresponding theory.

As has been indicated, one of the outstanding advances in the field has been the increasing dependence upon vocational guidance for the effective prosecution of vocational education ends. It is exceedingly interesting to note how many forces of diverse origin have focused upon guidance. The ravages of the depression, the liberalisation of educational theory, the advances of psychology, the growing social consciousness, have all tended to mesh vocational guidance practice, not only into modern vocational educational practice and into more modern school administration, but into that of other social agencies, both private and governmental.

Vocational Guidance

It has not always been easy to secure agreement as to just what vocational guidance is. However, putting together all the diverse opinions, it adds up to something like this:¹

"Vocational guidance (a) helps the individual to understand himself, using every scientific, pedagogical and personal device to arrive at a complete analysis. (b) It helps the individual to understand the occupational world in which he lives, appropriating the results of every other force that contributes to his understanding of the world at large. (c) It helps him to choose that field of occupations in which his individuality may operate successfully and happily, and to acquire proficiency in it. (d) Finally, to place him on a job within his field of occupations and provide help such as will enable him to advance to the limit of his capacity. Obviously, if these purposes are accomplished, vocational guidance implements both school and non-school education to the end that such education may do what it

¹ Keller, Franklin J., "Vocational Guidance," *Social Work Yearbook*, 1939. New York, Russell Sage Foundation, 1939.

has always professed to do—prepare boys and girls for life. More specifically

“(i) *Individual analysis* involves the observation and testing of interests, aptitudes and capacities, the observation of reactions to home, school and work experiences, the thoroughgoing examination of all physical characteristics, and a study of all recorded evidence, both subjective and objective, that will throw light upon the complete personality of the individual. This is the modern, scientific version of ‘know thyself’.

“(ii) *Occupational analysis* gives this individual general information regarding all occupations, and more and more detailed information about those occupations for which he seems fitted. This includes the description of actual professional and trade practices, the detailing of the qualifications of workers, the probable trend of the occupation both as to number of workers and as to income, and a recital of all other factors contributing to desirability or lack of desirability.

“(iii) *Vocational choice and preparation* result from the juxtaposition of individual and occupational analysis, the coalescing in one individual of an understanding of himself and of occupations. Whether this is wise and effective depends upon the skills and personalities of the teachers and counsellors with whom the individual comes into contact. The term “counselling” is often used to designate the personal relationship between counsellor and individual through interviews, conferences and lessons. These lead to the choice of courses or institutions for the acquisition of definite skills and knowledges in the chosen occupation. This is vocational education.

“(iv) *Placement and advancement* are the outcome of a canvass of the current opportunities and continued watchfulness of trends.”

The Advisory Committee emphasises the importance of vocational guidance in the statement: “In few fields of endeavour are the existing social facilities more inadequate than in vocational guidance. The ever-increasing complexity of our industrial economy emphasises the need of young persons for vocational guidance in choosing and preparing for occupations that will be suited to their respective abilities, needs and interests, and in which they will have opportunity to secure employment.” Many guidance programmes have been organised in various types of school, but, unfortunately, the number of vocational schools that have taken the initiative has been small. Where they have been conscious of the need they have relied upon the programme established for the whole community (which has often emphasised the educational aspect of guidance rather than the vocational) or upon the programmes in the academic schools. Notable exceptions have been the Milwaukee Vocational School, the Arsenal Technical Schools at Indianapolis, the Frank Wiggins Trade School in Los Angeles and the Metropolitan Vocational High School in New York City.

The Metropolitan Vocational High School

The programme of the Metropolitan Vocational High School, serving both full-time and part-time students, is based upon the thesis that every pupil is an individual problem, that he must be taught and counselled as an individual, that the school is responsible for the vocational and, to a considerable extent, the social welfare of the individual. Each teacher, in the capacity of *adviser*, accepts the responsibility for a group of pupils who remain with him or her throughout their stay in school. These advisers are truly *in loco parentis*. They are not counsellors, but rather deeply interested guardians. However, they may call for assistance for the *testing* counsellor, the *placement* counsellor, the *health* counsellor, the *social welfare* counsellor, each of whom is a specialist and devotes full time to counselling, and may also call upon any of the vocational teachers, who, as a group, have intimate knowledge of thirty-two principal trades and a general knowledge of the entire field of commerce and industry. Co-operation with home and industry is maintained through visits by co-ordinators. The individual is subjected to rigorous psychological and medical examinations. The results are kept in a cumulative record. Through its clothing, barbering and cosmetology departments, its dental clinic, and its other personal service departments, the school itself remedies many defects and supplies many lacks that reveal themselves through examination. Because of its shops and laboratories a vocational school can be peculiarly effective in service to youth. The theory of individualised, progressive, what we like to call modern education, has been expounded at considerable length in educational literature. However, the number of schools in the United States that actually carry out a programme based upon that theory is woefully small.¹

Organisations interested in Vocational Guidance

No amount of vocational guidance can create jobs and therefore can be either panacea or alleviation for unemployment, yet the depression has accentuated the maladjustment of normal times, and private and public agencies, springing up from the realisation of such maladjustment, inevitably have turned towards vocational guidance for at least a partial solution. The National Youth Administration, a Government body, has organised numerous guidance centres for the orientation of out-of-school youth who have not developed a major interest or have not found a suitable job, or have failed in both. In Quoddy, Maine, it has organised a vocational training programme based upon self-support and apprentice instruction. The American Youth Commission, a private body supported by foundation funds, is similarly concerned and has set

¹ Keller, Franklin J., and Viteles, Morris S., *Vocational Guidance Throughout the World—A Comprehensive Survey* New York, W W Norton & Co., and London, Jonathan Cape, 1937. In Chapter II, on the United States, in addition to an extended account of vocational guidance, there is a brief statement on vocational education.

up four experimental and demonstration programmes pointed towards the vocational orientation of drifting youth. The United States Office of Education has organized a vocational guidance staff within the Division of Vocational Education and is engaged an outstanding consultant on a part-time basis. This is of exceedingly great significance, for this particular division was for a long time indifferent to guidance. While the Government has long fostered vocational education, this full recognition of the importance of the guidance phase of occupational adjustment has come only during the past year.¹

The National Occupational Conference, organized in 1933 with the support of the Carnegie Corporation, has carried on extensive work in the gathering and dissemination of vocational guidance information and has stimulated research by other bodies. Numerous publications have resulted, in both book and periodical form. During the past year the superintendents of schools in thirteen key cities of the country have been conducted on a tour through institutions and systems where some of the best programmes have been in operation, with the result that the programmes of occupational adjustment in these cities² have been immensely stimulated. In all these programmes the emphasis has been upon the guidance phases of adjustment rather than upon that of training. The vital and encouraging feature is the recognition of the primary and essential rôle of guidance in any scheme of vocational training, the realization that, just as academic education may be a wasted effort, so training for a job may be futile, even harmful if thoroughgoing consideration is not given first to the *kind* of person being trained and the *kind* of job for which he is being trained. On the other hand, there is grave danger that, because of the relative cheapness and the relatively academic nature (in the minds of some) of guidance, that interviewing and testing and advising and placement will be carried on in an atmosphere of unreality, for sound vocational guidance involves try out and experiences at least comparable to those in life and depends upon the services of counsellors who have had close association with these realities.

Restatement of Purposes of High Schools

The significant feature of the whole problem of occupational adjustment is the fact that the need is recognized on every educa-

¹ This paragraph is adapted from the *Social Work Yearbook*, cited in the

² Chief among these has been the periodical, *Occupational Vocational Guidance Magazine*, published jointly with the National Vocational Guidance Association, of which it is the official organ. The conference also publishes the *Occupational Index*, a monthly listing of vocational information, of current magazine articles giving information about occupations. A number of books have been written at the instance of or with the support of the Conference.

³ Washington, D. C., Baltimore, Md., Atlanta, Ga., Pittsburgh, Pa., Salt Lake City, Utah, Birmingham, Ala., Houston, Tex., Oklahoma, Cal., Minneapolis, Minn., Seattle, Wash., Denver, Col., Trenton, N. J., and Omaha, Neb.

tional level and in every type of education. The Department of Secondary School Principals of the National Education Association is a nation-wide, organisation of academic school principals. Through its Committee on the Orientation of Secondary Education it has been attempting to restate the purposes of high schools in the light of recent developments. The result has been a most significant report (generally known as the Briggs report),¹ which sets forth ten important functions, six of which are definitely guidance functions. Three of these six are pointed toward *vocational* guidance and one is specifically that. Function VII is "to guide students on the basis of exploratory and revealing courses and of other information gathered from personnel studies, as wisely as possible into wholesome and worthwhile social relationships, maximum personality adjustment, and advanced study or vocations in which they are most likely to be successful and happy." This is supported by Functions IV and IX, which are "to explore higher and increasingly specialised interests, aptitudes and capacities of students, looking towards the direction of them into avenues of study and work for which they have manifested peculiar fitness," and "to begin and gradually to increase differentiated education on the evidence of capacities, aptitudes and interests demonstrated in earlier years." Care must be taken to provide previous to, and along with differentiation, as balanced and extended a general education as is possible and profitable. Perhaps the most significant function of all is X, "to retain each student until the law of diminishing returns begins to operate, or until he is ready for more independent study in a higher institution, and when it is manifest that he cannot or will not materially profit from further study of what can be offered, to eliminate him promptly, if possible directing him into some other school or into work for which he seems most fit." In other words, education must always be measured in terms of what it enables the student to do in life rather than in terms of what he can do in school.

Conclusions of the Carnegie Foundation

The same concern has manifested itself in the colleges and universities, but without the same forthright expression of opinion. However, attacking the problem purely with reference to the success of the colleges themselves, and on the basis of knowledge acquired rather than of skills developed, a study by the Carnegie Foundation² comes to conclusions that set forth the fundamentals of good vocational guidance. Proceeding from the fundamental conclusion of the study that "each student's self-education should constitute the controlling object of any educational agency that deals with him,"

¹ Committee on the Orientation of Secondary Education, Department of Secondary School Principals of the National Education Association. *Functions of Secondary Education*. Published at 132 N. Walnut St., Danville, Ill.

² Carnegie Foundation for the Advancement of Teaching. *The Student and His Knowledge*. Bulletin No. 29. New York, 1938.

it notes four essential aids to self-education: "(i) A knowledge of the student's history and previous attainment—mental, physical, social—as exact and comprehensive as can be procured (ii) A carefully considered forecast of what the student probably can achieve and actively desires to attempt (iii) Provision for (a) access to skilful teaching, as the student, under expert personal direction, finds it needed, and (b) material facilities, such as libraries, laboratories and collections organised and administered primarily for the student's convenience in learning (iv) Provision for (a) recognition of cumulative progress in knowledge, measured comparably and comprehensively, and (b) the analysis and description of abilities, special traits and peculiarities in the use of knowledge, as well as of conspicuous qualities of character and disposition."

Administration and Supervision of Vocational Education

Despite the fact that there is considerable uniformity of purpose and practice throughout the elementary and secondary schools of the United States, there are actually forty-eight different systems, controlled locally in each of the states. Moreover, in the academic field the schools are supported entirely by local taxation. In the vocational field, as the result of a number of Acts of Congress, Federal funds are available, but these funds are expended by, and the schools are administered by, the state boards of education. The plans must be submitted to and approved by the United States Office of Education before the Federal funds are allotted, and from time to time there is inspection by the agents of the Office of Education, but there is control only to the extent that minimum standards must be met. Recently there has been much pressure for the extension of this aid to all public education, leaving to the states the task of apportioning it to the various types of schools, including the vocational. The President's Advisory Committee recommends a subsidy, increasing from \$40,000,000 in 1939-40 to \$140,000,000 in 1944-5. The proposal has aroused considerable opposition, on various grounds, and, while the ultimate action cannot be predicted, it is certain that it will be brought about only after long debate.

At the present time, Federal appropriations for vocational education and for the vocational rehabilitation of physically disabled persons are made under a number of Acts, the most important of which are the Smith-Hughes (1917), the Vocational Rehabilitation Act (1920, 1924, 1930 and 1932), the Social Security Act (1935), the George-Deen Act (1936), and, for agricultural education, the Smith-Lever Act. For the year ending June 30th, 1937, these Acts (excluding the Smith-Lever) caused the expenditure of \$10,013,669 of Federal funds for vocational education and \$1,534,552 for vocational rehabilitation. To each dollar of vocational education money the states added \$2.63 and to rehabilitation money \$1.16, resulting in a total expenditure for both purposes of \$39,716,382. None of this Federal money is available for plant or equipment, but must be

used for salaries of vocational teachers, supervisors and directors, and for the maintenance of teacher-training.¹

The Office of Education is assisted by the Federal Advisory Board for Vocational Education, composed of four members *ex officio*—the Secretary of Agriculture, the Secretary of Labour, the Secretary of Commerce and the Commissioner of Education—and three citizens appointed by the President, one representing manufacturing and commercial interests, one representing the interests of labour and a third representing the interests of agriculture. In addition to this statutory group, the Commissioner of Education has appointed a Technical Advisory Committee on Trade and Industrial Education “for the purpose of advising in connection with all questions surrounding plant training.” Three members represent organised labour, three represent employers and three represent vocational education.

In this connection it should be noted that practically all vocational schools or systems of schools have advisory boards with this type of membership. For instance, the New York State Law stipulates that wherever vocational schools are established, there must be organised an Advisory Board on Industrial Education. In New York City, some twenty-seven commissions have been formed, each concerned with a particular field of work. They are maritime trades, vocational music, photography, cosmetology and hairdressing, dental service, building maintenance, aeronautical, automotive, building trades, commercial education, diesel-engine industry, food trades, metal trades, needlecraft, graphic arts, radio, boot and shoe, machine manufacturing, patternmaking, ophthalmology, optical mechanics, horology, jewellery crafts, welding, floristry, boatbuilding. There are also committees on health and safety. These commissions are responsible for advice on the organisation of courses of study, for advice on types of equipment and supplies, for co-operation in providing apprenticeships, and for assistance in the placement of graduates. The members are outstanding in their respective fields.

While education is a state function, the state boards of education usually do not exercise direct supervision. In New York State, for instance, the State Department of Education sets minimum standards for all types of education, including vocational, and through examination and inspection determines the apportionment of state aid. The schools themselves are controlled by the local community (city, town or county) through a board of education, corresponding to the English local education authority, and a superintendent of schools, corresponding to the English director of education. Usually, under the superintendent, there is

¹ United States Department of the Interior, Office of Education, Vocational Division. *Digest of Annual Reports of State Boards for Vocational Education, for the Fiscal Year ended June 30th, 1937*. Washington, D.C. Many of the data used in the ensuing discussion have been drawn from this excellent report.

an assistant superintendent or a director directly responsible for vocational education

Enrolments in Vocational Classes

As on June 30th, 1937, the figures for vocational schools or classes operated under state plans are

TYPE OF SCHOOL	TOTAL	AGRICULTURAL	TRADE AND INDUSTRIAL	HOME ECONOMICS
All types	1,506,824	394,400	616,199	496,225
Evening	401,503	122,747	128,651	150,105
Part-time	376,875	29,328	297,254	50,293
All-day	728,446	242,325	190,294	295,827

During this same period 11,091 disabled persons were physically restored and placed in remunerative employment, while 45,096 disabled persons were in process of rehabilitation. The whole trend of enrolment has been upward. The 1937 total of 1,506,824 in all types of school has been built up gradually from a figure of 164,123 in 1918.

Agricultural Education

As has been already shown, vocational education is profoundly affected by technological and economic changes in all areas. During recent years no occupation has suffered more than agriculture. The whole basic trend of several hundred years has been reversed. The push was towards the West, where there was new land waiting to be broken, where there was plenty and abundance, and all the fun of acquiring it. All the circumstances were in the direction of land exploitation instead of painstaking husbandry. At the same time, there was the pull towards the cities where fortunes were to be made, leading to still further neglect of the land. Inevitably the west coast was reached, exploitation led to soil wastage and erosion, farms were neglected and abandoned rather than carefully cherished. So now both the westward and the city-ward movement have slowed down or stopped. There have arisen the problems of failing farm income, tenancy, disgraceful living conditions, border-line standards of living, and all that has usually been associated with urban slums. To meet these problems the Government has directed a number of large-scale efforts, notably the Agricultural Adjustment Administration, so that training for farming has become more than mere preparation for future farmers. It has become a problem of recasting all agricultural life.

"This process, which we call education, must change the 'mind set' from pioneering by exploitation, to pioneering through conservation and institutional reconstruction, from individual competition to institutional co-operation. In order to rebuild the institutions of American agriculture, vocational education must project programmes that are large enough in scope to reach all present

and prospective farmers in each of the several types of farming in the several states" ¹

Development of Part-time Classes

All of which leads to the emphasis now being placed upon part-time education in this field, evening and Saturday classes for prospective and present farmers of all ages "Developments in agricultural education during the year indicate that eventually vocational agriculture programmes will be so arranged that it will be possible for a young man to enrol for instruction in vocational agriculture while in high school and to continue systematically throughout his life to 'go to school' for the purpose of studying problems of agriculture and farm life" ² So, in the 1936-7 figures we find the largest increase (40 per cent) in the part-time classes. The classified enrolment is 224,678 young people attending full-time, all-day high school classes, 120,626 adults operating farms, who were attending evening classes, 29,096 young men out of school and on farms, who were attending part-time classes, and 11,902 young people attending day-unit classes in outlying rural high schools.

Importance of the 4-H Clubs

An important agency for integrating vocational education with the life of the farmers has been the boys' and girls' club, in which the major feature has been *activity*. One group, the Future Farmers of America, has been sponsored by the Office of Education for all boys studying vocational agriculture in the public secondary schools. At the close of the year there were approximately 4,900 local chapters with an active membership of 143,700. Emphasis is placed upon the development of leadership qualities, a co-operative attitude, habits of thrift, scholarship, sportsmanship, citizenship and patriotism and upon character building. Some of the activities were savings and thrift banks, training in parliamentary procedure, public-speaking projects, home beautification and improvement projects, rural fire-prevention projects, conservation programmes, pest-eradication programmes, and leadership training camps and conferences. With the same object in view the Department of Agriculture has organised, under the Smith-Lever Act, 4-H clubs throughout the United States (4-H standing for Head, Heart, Hand, and Home). "This club work constitutes part of the national agricultural extension system, by means of which instruction in agriculture and home economics is given to rural boys and girls by the United States Department of Agriculture, the land-grant colleges and local agencies co-operating. The instruction is given by means of farm, home, and community demonstrations and club

¹ Wheeler, John T., "State Programmes of Vocational Education in Agriculture" *American Vocational Association Journal* February 1938

² Digest of Annual Reports of State Boards for Vocational Education
Op cit

activities (1) of helping country boys and girls to improve rural farm and home practices and the social life of their own communities, (2) of showing them the possibilities of rural life, (3) of aiding those who so desire to become efficient farmers and home-makers, and (4) of teaching rural boys and girls how to make of themselves public-spirited citizens and leaders in rural affairs.

"The outstanding characteristic of 4-H club work is that each member conducts a substantial piece of work, designed to show some better practice or the aim or use of some or communities, keeps a record of results, explains the work to others, and makes a final report on the work. Typical lines of club work are: growing an acre or more of cotton in accordance with the directions of the agricultural college; raising a sow and litter of pigs according to instructions; growing fruits and vegetables in accordance with the dietary needs of the family; canning the surplus in the most approved ways; and other phases of farm and home work that especially appeal to young people.

In the 4-H club work 922,000 rural boys and girls are enrolled in 57,400 clubs. The activities carried on by approximately 2,355 county agricultural agents, about 1,104 home demonstration and 192 county club agents.

On the adult level the county agricultural agents carry to the farmers and then wives the latest scientific findings and as teachers and advisers give instructions and practical demonstrations in agriculture and home economics "to persons not attending college." The farm demonstration, a try-out process, is the favourite method. In conference a representative group of farmers and the county agent select certain improved methods of farming, and volunteers then agree to put them into practice for the benefit of all the others. Other teaching devices are the fair and home tour, discussions and group meetings, publications, news stories, circular letters, illustrated handbills. A successful important phase of the service lies in the 368,000 men and women serving as volunteer local leaders among their neighbours and the 115,000 giving similar service to the farm boys and girls in their communities.

Trade and Industrial Education

Despite the large number of boys and girls learning for other types of work, the term "vocational education" is often used synonymously with 'trade education'. In the light of the technological changes that have been recounted this type of education has presented problems even more baffling than those of agricultural education. The numbers increasing are large but by no means comparable to the number of adults actually in industry. For 1937 they are: Evening, 176,222, part-time, 139,080, part-time general continuation, 145,433, day trade, 169,757. While the total increase

¹ Smith, C. B., *Boys' and Girls' 4-H Club Work*. United States Department of Agriculture, Miscellaneous Circular No. 57. Washington, D.C., November 1935.

over 1936 was more than 53,000 pupils, it is interesting and significant to note that the part-time general continuation group remained practically static. Two major causes are operative. The changing nature of business and industry makes "child labour" less and less useful. On the other hand, social conscience has placed legal restrictions on the employment of persons under 18, and at the same time has raised the compulsory school attendance age to 16 in most of the states. To meet this situation the school authorities are coming more and more to provide in the full-time schools for the vocational and social needs of young people. This situation intensifies the importance of a problem that has existed ever since people had to learn to work. It may be formulated in various ways, but it comes down to this: What learning situation is most favourable to the attainment of occupational efficiency? Can skills, technical knowledge, and social conduct be acquired best in school or "on the job"? If school is better for some and the job better for others, what, in terms of time and place, is the best combination? All this involves part-time, continuation, evening and apprentice types of education.

"Part-time education is indubitably the soundest kind of education. It is God's gift to the professors of method and curriculum. It is the boon and salvation of the worker who has left school too soon, it is the bulwark of society against an ignorant and an unlettered proletariat. It is impeccable pedagogically because it combines doing and learning, experience and theory, work and study. It is the activity programme *par excellence*. Progress can be, and usually is, measured in terms of progress of the individual. Much of the instruction is given individually. Since most people desire to advance in their work and to earn more money, motivation is always excellent. Better understanding by workers means better products, better products mean better business, better business means higher standards of living, and so on. Part-time education should bring about not only a "new deal" but an entirely new world. The arguments are irrefutable. They are inefragable. The picture, apparently, is perfect. Yet part-time instruction is still a minor phase of education in this country. It has even been deserted by some of its former exponents. Why? Because in business it has placed an apparent tax upon profits, a very real tax upon social outlook. In school it has imposed the same tax upon social outlook and a heavy strain upon administrative skill.

"The largest numbers of part-time pupils have been those of secondary school age—generally speaking, between 14 and 18 years of age. Changing technologies and business methods, rising unemployment, high cultural aspirations, and the rise of the minimum legal age for attendance upon the full-time school have all combined to reduce the number of young people at work, and therefore the number attending part-time schools. In New York City, for instance, a peak of 75,000 in 1931 has sunk to 22,000 to-day. In some parts of the country the part-time school plants have been

abandoned and the faculties have been dispersed. In others, notably in New York City, they have become combination full-time and part-time schools. In some cases the full-time have entirely supplanted the part-time schools. Here again, educational leadership has played its rôle, for better, for worse. Where there has been vision, all the pedagogical virtues of the part-time school have been appropriated and multiplied in the full-time schools, where this vision has been lacking, the worst features of both types have been retained, and administrative obsolescence has set in."¹

The Problem of Apprenticeship

Of course, the oldest and most honourable type of vocational education has been that of apprenticeship. The introduction of the machine wrecked the master-apprentice relationship, and ever since attempts have been made to secure the benefits of all-round learning amid the nervous time and energy demands of mass production. Much has been done to promote apprentice programmes, and late in 1937, Congress established in the Department of Labour a Federal Committee on Apprentice Training, the members of which represent employers, employees, educators and the National Youth Administration. To the Labour Department were assigned the responsibilities of third-party approval of apprenticeship agreements, quotas of apprentices, age of beginning apprentices, selection, standards and processes of apprentice agreements or indentures such as wages, hours, length of apprenticeship period and schedule of provisions or operations. To the Office of Education was assigned responsibility for the educational aspects of apprenticeship, such as the selection of special teachers, the selection and training of co-ordinators, and the preparation of trade analyses and outlines. Within the terms of the Act an apprentice is defined as "a person at least 16 years of age who is covered by a written agreement with an employer, approved by the State Apprenticeship Council or other established authority, which apprentice agreement provides for not less than 4,000 hours of reasonably continuous employment for such a person, for his participation in an approved schedule of work experience through employment and for at least 144 hours per year of related supplemental instruction."

The latest survey of apprenticeship in the United States indicates that 44 states and 380 cities or counties have apprentice training programmes. There were 30,492 apprentices in programmes co-operating with schools, and 7,398 in programmes not co-operating. The largest number in any state was 10,474 and the smallest was four.² As the author points out, "Under modern conditions, it is not possible in most skilled occupations to re-establish the old type of apprenticeship which called for close contact and association

¹ Keller, Franklin J., "Learning and Earning in 1937" *Journal of Adult Education* April 1937

² Cushman, Frank, "Summary of Status of Apprenticeship in the United States" *American Vocational Association Journal* May 1938

between the apprentice and the master workman in the work of a craft. To accomplish the desired result, the best modern equivalent is a combination of progressive and controlled job experience with appropriate safeguards, and attendance at a vocational school where training is provided in the related and technical subjects necessary to complete the vocational training of skilled craftsmen."

Diversified Occupations Courses

Another significant effort to adapt sound vocational education to modern conditions, especially in small towns where there is only one employer for each type of job, is the so-called diversified occupations course, given by high schools in co-operation with employers. "Here is a town of five thousand people, let us say. In the high school there are twenty or thirty boys who wish to learn trades and should be learning trades. Even if the town had money for a trade school there would be no possibility of teaching each boy one of the fifteen or twenty different trades that serve the community. But there is likely to be a favourable response if the teacher, who is called a co-ordinator, says to a well-established auto-mechanic and garage owner: "Here is Bill Smith, a fine fellow, who wants to graduate from high school, but who also wants to learn to be an auto-mechanic, he can come to school for two hours each morning, and be with you the rest of the day." The boy is taught his trade under normal shop conditions and under the supervision of the co-ordinator. In high school he is taught the related science and mathematics, as well as the usual English and social studies. He may or may not be paid at first, but ultimately he is. And when he graduates, he is likely to be employed full-time. In like manner, other boys may go to an electrician, a grocer, a photographer, a carpenter, and so on. The boy remains under the supervision and influence of the school. As an apprentice he would have come from the job for school work. Under the diversified occupations plan he leaves the school each day for vocational training."¹

Whatever the future of part-time vocational education, in any of its forms, may be, in view of the rising age of initial employment, there is laid upon the full-time secondary school the responsible task of preparing boys and girls, either directly or indirectly, for vocational competence. This can be done successfully only if it is carried on in terms of industrial and economic reality. It can be done only if it provides for versatility as well as specific skill. It can be done only if it trains social human beings as well as artisans. After touching upon several other phases of vocational education, this survey will conclude with a suggestion as to the approach to this problem, in terms of actual practice.

Vocational Education for Girls and Women

Trade and industrial education for girls and women has become more and more of a necessity. Practically every day school for

¹ "Earning and Learning in 1937." *Op cit*

vocational education maintains a waiting list, and in some of the newer centres the waiting list exceeds the total number already enrolled. More short unit courses have been set up for various occupations in mechanical and manufacturing pursuits, the laundry trades, store jobs and jobs in the novelty trades. Household service still remains the largest single-woman-employing occupation in which the demand for trained workers always exceeds the supply, and numerous attempts have been made to meet the demand. In this vocation the social relations of servant and mistress and the fact that the home is a twenty-four-hour-a-day industry are more important factors than the skills involved. As has been noted in agriculture, vocational education must bring about a different way of life before it can produce competent workers in that life. In this connection it is notable that there has been an increased demand for training in the food trades, the trend of which is always to take over some of the duties heretofore centred in the home.

Associated with this problem is, of course, the development of home economics education. There has been a definite movement to make public schools centres for family life education. In the rural regions there is co-operation with the agricultural department. Enrolments in homemaking departments and classes operated under state plans during the year 1937 totalled 496,225, an increase of 42,293 over the previous year, distributed as follows: 150,105 in classes for adults, 50,293 in part-time classes for employed young people, 295,827 in all-day classes for young people in full-time school attendance.

Commercial Education

The outstanding recent development in the field of commercial education has been the passage of the George-Deen Act appropriating \$1,254,000 of Federal funds for the training of workers engaged in the distributive occupations. These workers, as recognised by the Office of Education, are: Managers and operators of all kinds of stores, shops and other businesses; managing agents, including branch managers and other local representatives of all kinds; apprentices and learners in training for managerial positions in stores; department heads, supervisors and foremen in stores; purchasing agents and buyers; sales managers, salespeople; store service workers who come in direct contact with customers; and deliverymen, messengers and other miscellaneous distributive workers, such as auctioneers, newspaper vendors, waiters and stewards. As pointed out by the Office, the need for this type of training is emphasised by the fact that one out of every six workers is employed in some branch of the distributive field, that less than 500 small-store operators out of 1,200,000 retailers in this country are being shown how to meet competition from chain and other large selling organisations, that more than 250,000 beginners are employed in stores each year without any preparation for this kind of work, and that practically no trade associations offer education for

their members. This type of training is comparatively new and undeveloped. This is the first time that Federal funds have been available for it. There has been no background of experience for the formulation of plans, and there have been few trained persons who could be used immediately for supervisory and teaching services.

Some of the benefits envisioned by State boards for vocational education are: (1) It will help to bring about greater stability among the distributive businesses of this country, about one-fifth of which discontinue each year. (2) It will help to reduce the failures in distributive businesses, which account for an average of 6 per cent of all business discontinuances, as well as the number of bankruptcies in distributive and commercial businesses, which in 1935 amounted to approximately \$157,000,000. (3) It will help to develop a realisation that management of small stores and businesses should be undertaken only by persons who have had a definite preparation for this kind of work and are possessed of financial assets and experience. (4) It will make some contribution towards the development of apprenticeship in the field of retailing and small business management. (5) It will serve to call attention to the need for education for those engaged in or preparing for employment in the upper levels of distributive activities. (6) It will stimulate schools to offer more courses in selling, marketing and other distributive subjects, so as to (a) help adjust the present excessive enrolment in clerical commercial courses to the actual market for such workers, (b) provide instruction for youth in secondary schools with superior aptitudes for the distributive occupations, (c) help adjust secondary school commercial courses to the changed conditions affecting the employment of youth in offices and stores, and (d) provide more facilities for bringing about a better understanding of the operations of the producing and distributing organisations of our economic system.

Vocational Rehabilitation

Certain special problems have arisen in this field for the solution of which the Office of Education offers specific solutions. Approximately 60 per cent of the handicapped who are eligible for rehabilitation, and whom it is reasonable to rehabilitate, are young persons who have had no vocational experience. It is difficult to find schools where this process can be successfully carried on. It is suggested that a more liberal interpretation of the terms of the George-Deen Act would be helpful. It is necessary to provide the living expenses of persons who must undergo special vocational training preliminary to employment. Unemployment and competition for jobs is making it more and more difficult for the handicapped to obtain them. State laws intended to promote social and economic security have the same effect. "(a) Compensation laws will have to be amended so that the burden of compensation for second injury will fall upon the State rather than upon either the employer or the

employee, (b) the training for those requiring rehabilitation will have to include skills in several jobs and will have to be more thorough than it is at present, and (c) provision will have to be made to employ in State-maintained sheltered workshops those excluded from private employment."

Vocational Education To-morrow

Throughout the United States are found significant vocational education programmes, in systems of schools as well as in individual schools. Some of these come quickly to mind. The State of Wisconsin, with its dual system of control—one board of education for general education and another for vocational education—has many excellent vocational schools; the best known and largest of which is that at Milwaukee. Buffalo, N.Y., has developed an effective group of schools, several of which specialise in single fields of vocations, such as aviation, auto-mechanics, printing, metal trades and so on. Essex County in New Jersey has for both boys and girls provided training on several levels, giving special attention to the slow learner fitted best to repetitive jobs. The Vocational Technical Schools in Indianapolis have worked successfully with the "composite high school" idea. Cincinnati has fine vocational schools, one of which, the central Automotive School, is outstanding. Philadelphia has built two new and modernly equipped schools. The names of the Boys' Trade School in Boston, the Cornell Trade School in Pittsburgh, the Delgado School in New Orleans, the Frank Wagner School in Los Angeles are well and favourably known. Among girls' schools, those in Boston, Minneapolis and Newark and the David Hale Fanning School in Worcester, are noted. In New York City a programme is developing such as should meet the needs of young people as well as any. The career instruction, central schools of printing, needle trades, aviation trades, auto-mechanics, clerical trades, homemaking, beauty culture, commercial work, and one school, the Metropolitan Vocational High School, which houses six central schools—for commercial photography, maritime occupations, vocational music, building maintenance, personal service (barbering and clothing maintenance for men) and civil service occupations. In contradistinction to local schools, the central schools serve boys and girls living anywhere in the entire city. Moreover, their work is co-ordinated through a vocational guidance programme.

With all that may be said in favour of vocational education there must always be kept in mind the possible and probable inadequacy of the traditional trade school. It is true to say that all human institutions, as institutions, tend to lag behind the needs of the individual human beings with whom they are directly concerned. Especially prone to such social lag have been the so-called academic schools. "Classicism" has tended to become a reproach. Yet the same criticism may be levelled at many vocational schools which

one would think, were, in the nature of their work, compelled to keep abreast of industry and business. However, this has not necessarily been true. Scanning the curricula of the trade schools of the United States, there still appears a predominance of such subjects as woodworking, machine-shop practice, electric wiring and installation, plumbing, sheet-metal work, auto-mechanics, aeronautics. For the most part, the building and metal-working trades. Of course, here and there are indications that other occupations are being considered—electric welding, diesel-engine work, watch and clock repairing, and so on, but the core has been the old-line trades. It is true that these trades continue to be useful, but it is also true that they have been subject to all the technological influences of the times. As principal goals, their relative importance has diminished. A skill in any one of them is useful, but unless it can be applied to a great many different fields, it is narrow and cramping. In other words, there is lacking the versatility emphasised by the critics.

Planned Training for Versatility

Of course, "training for versatility" may be no more than training for futility unless it is planned in relation to definite, pay-off jobs and is carried out by men who know those trades. However, the training can be sound. The approach has been made in the Metropolitan Vocational High School in New York City and is offered as an adumbration of vocational education of to-morrow. Because of its structure and for easy identification it is said to be embodied in the "four-dimensional school." The term is simply a convenient symbol of the multiplicity, the many-sidedness of life in general and of school life in particular. But, in a sense, it is accurate. The only way to depict three dimensions is in space, that is to say, visually. Words are dangerously confusing. However, in so far as words can do the job, here are the words.

(i) Picture all the activities of the school as being contained within the confines of a cube, as being three-dimensional.

On the front plane are listed certain *core subjects*, large occupational goals, such as the maritime occupations, the photographic industries, civil service, building maintenance, vocational music, personal service, while parallel to these are other core subjects designed for cultural and social situations. These are health and personality, English, social studies and household arts.

(ii) On the side plane, at right angles to the front plane, are the *media and power subjects*, knowledges and processes necessary for the successful pursuit of the occupational goals. For effective seafaring a boy ought to know, in addition to the technical operations of the sailor, something about woodworking, metal working and electricity. He must be able to work in various media and control various types of power. He keeps before him a broad vocational goal, with the idea of fitting into some phase of it. He is getting a broader and more intensive knowledge of what it means, and yet, if in the end

he decides against seafaring, he has attained a certain degree of versatility which will serve him in other occupations. This conception of the media subjects provides a practical method of training for a diversity of occupations, something that is frequently demanded as "general training." "General training" is a fine example of high abstraction, which is often equivalent to confusion.

(iii) On the top plane imagine a multitude of "services," the most important of which is vocational guidance. There are the medical and dental clinics. There is the testing laboratory. There is the social welfare service. There are the cafeteria and canteen for the provision of adequate and wholesome food. There is the reception and orientation service for visitors, comprising largely representatives of co-operating outside agencies. There is the students' organisation for self-government, for publications, for clubs and for athletics. There are all kinds of excursions for observation of and contact with life outside the school building, the life that counts. There is the S O S, the service of supplies—and equipment, so that the boys and girls will be working with real things. There are also the clerical services.

All the activities on the three planes must be thought of as penetrating into the cube and crossing each other. They interweave and interlock. School life becomes complex, just as all life is complex. Everything is there, but what is the pupil to do about it? Will he not be more confused than ever? Probably, unless somebody, wiser and more experienced, takes him in hand. That is where the fourth dimension comes in.

(iv) Of course, it is not really a fourth dimension. It is simply the line that extends diagonally from one corner of the cube to the opposite corner. Obviously, it cuts across all the core subjects, media and power subjects, and services. It is the path of the pupil and his Adviser. The Adviser is one of the teachers of the school, not a counselling specialist. When Tommy is admitted to school (by a special admission counsellor), he is assigned to teacher "A," who remains his school friend and parent as long as he remains in school, one month, ten months, four years. A's family of pupils is never greater than thirty, his new accessions come at comparatively long intervals, and he keeps them for long enough periods to learn to know them.

Essential Features of a Vocational School

A vocational school must implement the essentials of reality that are inherent in any functioning school. There are seven major criteria, and the four-dimensional school meets each of them.

(i) *There must be immediate, official and continuous contact with business and industry.* This is maintained through advisory boards, as has been explained above.

(ii) *The school must train for well-defined fields of work, fields that are attractive to the pupils, that provide employment for workers of all degrees of skill and for which training can be given in school.* The

fields of work are certainly well defined. The maritime trades, for instance, are attractive to the pupils—they lead to specific employment, they require workers of all degrees of skill, and experience has proved that training for them can be given in school, especially when that school is located on the water front where ships from all over the world are available for instruction purposes (as is the case with this school).

(iii) *The field of training must be broad enough to include many different jobs, all dependent upon the same major interest, but varied enough to utilise many different aptitudes.* This criterion is certainly met. In the maritime occupations, for instance, that interest is the all-embracing sea, a motivation inferior to none for the type of boy who is actuated by it. Yet the individuals drawn by it may ultimately cover the whole occupational range from able-bodied seamen to captain, from oiler to chief engineer.

(iv) *Versatility must be provided for by teaching skills in the handling of the more common media and power sources, such as wood, metal, plastics, textiles, food-stuffs, electricity, oil, steam.* Again illustrating from the maritime occupations, one notes that there is always the chance that the varied economic and political influences, as well as personal circumstances, will prevent the well-trained boy from ever going to sea. A mere sailor is lost on land. However, if trained in media and power subjects, he has the fundamental skills for land jobs.

(v) *The school must provide instruction in such related technical subjects as make the worker intelligent as well as skilful.* Every good vocational school teaches the related technical subjects. Mathematics, science and drawing all contribute to the intelligence of the worker. In the Metropolitan these are given full play, much fuller play than in most vocational schools. For the non-academically minded young person (and these are in the majority) these subjects, along with English and the social studies, are paced to the aptitude and ability of the pupils. However, there is always a number who wish to meet the standards of the academic school, who may even wish to go on to college. For these pupils special classes are organised to present these subjects on a plane as high as that in any non-vocational school.

(vi) *The school must provide instruction in such subjects as will produce a cultured citizen as well as an able worker.* These subjects are principally the language of the country and the social studies—history, economics and civics. In addition to these subjects, the school provides instruction in the care of health and in the development of personality. Every possible measure is taken to produce well-rounded citizens.

(vii) *The mere presentation of all these subjects does not assure their effective application to each pupil. Essential to such application is a guidance programme, as part of which every pupil is diagnosed for mentality, physique and temperament, and every means is taken to bring about an adjustment to a desirable field of work and to his fellow-*

workers Most important of all is the guidance programme. It is difficult and detailed. It is briefly sketched above in a paragraph under the general caption of vocational guidance. It must be emphasised again and again, that the only valid measure of the efficiency of any school organisation is the amount of education (skills, knowledges, personality) it enables each individual pupil to get, and that it can thus affect each pupil as an individual only when the guidance programme enables it to do so. Conversely, no guidance programme can be useful unless the curriculum of the school provides opportunities for vocational try-out and training, for exercise of the aptitudes and abilities of the individual, in other words, for education in the best sense of the word.

(viii) *The most subtly contrived administrative scheme fails utterly to function in the absence of competent and sympathetic personnel.* The results accruing from the vocational education and guidance programme of the Metropolitan Vocational High School are no better than the efforts of teachers and counsellors of intelligence, skill and integrity to do their best. It serves to upgrade the poorer staff members and to eliminate the worst. It places responsibility where it belongs and keeps it there long enough to be effective and to be measurable. It is no substitute for the intelligence and integrity that must be there to begin with. But it can develop skill. It manifests itself in that supreme loyalty, loyalty to the child. In the teacher this loyalty comprehends all other loyalties and is the *sine qua non* of sound vocational guidance. And finally, there is something we call grace that makes the right action pleasant, the right form beautiful, the right word musical, that makes the act of teaching a means of transmitting culture, and places the profession of teaching upon the highest plane of public service. The recognition, selection and nurture of such teachers and counsellors is the highest duty of the administrative staff.

Thus vocational education must, in this rapidly changing age, apply the best educational theory to the best occupational practice, to produce better workers, finer citizens, and happier people.

FRANKLIN J. KELLER.

PART NINE

Education in Egypt

(See also YEAR BOOK, 1932, pages 982-93, 1934, pages 142-3, 1935, pages 153-5, 1937, pages 100-1, 537-54)

Introduction

THE reign of His Late Majesty King Fuad I was marked by a renaissance movement in all directions of action and thought. In the field of education the reforms introduced since 1917 have been far-reaching. Not only have schools of all types been multiplied, with a marked increase in the number of boys and girls attending them, but also a strong intellectual movement soon made itself felt, and a State University was established in 1925.

I shall try in the following pages to give the lines along which the system of Egyptian education will run in future and the reforms that should be effected to meet the needs of a new Independent Egypt.

At present there are the following branches of education

- (1) Elementary education
- (2) Primary education
- (3) Secondary education
- (4) Technical education comprising (a) Industrial, (b) Commercial, (c) Agricultural
- (5) Higher education

(1) Elementary Education

Elementary education is compulsory from the age of 7 till the age of 12. The object is to train the child to read the vernacular (Arabic) tolerably well, write it legibly and in correct form and keep his own accounts, and to try to make it possible for him to understand and appreciate those ideas of social life compatible with his own standard, and to lead a good and contented life, sound in mind and body and removed as far as possible from defects and evil tendencies.

(a) Half-day Schools

In these schools the lessons are given on the same day to two groups, boys and girls separately.

The half-day system was adopted for two main reasons

- (i) Economical, because the cost of educating all children would be three million pounds annually instead of six, and
- (ii) Social, so as to give the children the chance of working with their parents in the farms or the shops during half of the day.

The organisation for the education of the masses, so to speak,

began as far back as 1880. But in 1935, the Law for Compulsory Elementary Education was passed by Parliament, and in 1936, this law was put into operation in certain districts. The period required for its enforcement all over the country will vary between 10 and 20 years according to the state revenue.

(b) *Whole-day Schools*

The Ministry is convinced that whole-day elementary schools are essential for the preparation of children for primary schools, and the religious institutions.

With this end in view, the Ministry has started to change some free Makhtabs into whole-day elementary schools in order to afford boys of the middle class in cities and big towns the opportunity of joining these schools, since no kindergarten exist there. Experience has also shown that boys of this class do not favour the free Makhtabs, as education in them is for half the day only and such boys do not benefit from the other half.

Small fees will be charged, in order to meet the increase in expenditure entailed by the change.

(c) *Preparatory Schools*

These are schools which prepare pupils for the elementary training colleges. The syllabus of these schools is based on the course provided by the primary school education, with the exception of the foreign language. It was observed by the Ministry that the number of pupils completing their studies at these schools is in excess of the number required by the elementary training colleges. The Ministry has therefore considered the possibility of availing some of these schools and other channels of uselessness by giving increased attention to the training of those pupils who desire to complete their compulsory education. The object of this training is a practical one, and is to be directed on the ways and means for the development of those boys and their villages by the techniques and opportunities that are actually at their disposal. These schools will be called agricultural or industrial Makhtabs. It is to be observed that the former are to be established in towns where there are schools of agriculture, while the latter are to be established in towns where there are trade schools, so that it may be possible to utilise the presence of the teachers of these agricultural and trade schools, and of the fields or workshops annexed to them.

Two elementary schools have already been converted into agricultural Makhtabs and five other schools into trade schools (industrial Makhtabs).

(d) *Higher Elementary Schools for Girls*

These have been instituted with the object of training girls who wish to continue their elementary secular education in the requirements of domestic economy, needlework and such subjects as will

train them to gain their livelihood in a practical manner after four years of study. Girls may join the elementary training colleges after a course of two years.

The elementary training colleges for men and women teachers accept girls and boys who have completed their compulsory elementary school study and spent two years of further study.

A suitable course of three years is given at these colleges to prepare the pupils to become elementary school teachers.

(2) Primary Schools

The second type is the primary school, which is more or less of a European type, and the children are accepted from the kindergarten or the elementary schools from the age of 7-10 years.

(a) Kindergarten Schools

These were created for the children of the well-to-do classes, in order to give them a better preparation for primary education. They are conducted on the most modern lines, games and music being used in imparting instruction to children between the ages of 5 and 8 years.

(b) Primary Schools

These prepare the child principally for his secondary education, which begins after a period of four years' instruction in religion, Arabic, English (or French), arithmetic and general knowledge (including elementary science, hygiene, geography, history, manual instruction, school gardening and physical training).

The syllabus is so adjusted as to include instruction in domestic science and needlework for girls.

Tuition fees are prescribed, and only about 5 per cent of the children are accepted free.

The syllabuses of these schools are closely linked up with the secondary school syllabuses, so that the latter may be a continuation of the former.

In fact, there is an idea now to incorporate the third and fourth years of the primary schools with the secondary schools and to do away with what are now called primary schools, and with the Primary Leaving Certificate Examination, which is usually held at the end of this course of study.

Instead of this public examination, local examinations may be held at the end of the primary course, and a school-leaving statement will be given to the pupils. On the strength of this statement, pupils may be able to continue their secondary study or join intermediate schools—industrial, commercial or agricultural, etc.

(3) Secondary Education

In view of the importance of secondary education and the persistent need for progress, the Ministry of Education has effected a comprehensive scheme of reforms in the organisation, schemes of

studies, syllabuses and all school activities pertaining to secondary schools. The main aim is to emancipate teachers and pupils from their slavishness to rules, books and examinations, and to give scope to self-expression and character formation.

The first four years of the secondary course are devoted to subjects of general culture, and in the fifth year the stage of orientation begins. Successful pupils may join the literary, scientific or mathematical section according to their abilities. The recent reforms embodied

(a) *Reduction in Size of Language Classes*

The reduction of the number of pupils in any language lesson to twenty-two—at the same time grouping them into units more or less homogeneous in capacity. The teachers are thus enabled to give a closer individual attention to each boy in their classes, and more time to the correction of their written exercises.

(b) *The "Senior Master" System*

As it was impossible for a headmaster to supervise adequately all branches of study taught in his school, he now receives assistance in this important duty from his most experienced teachers, who are nominated to exercise supervision over the work of other teachers in their respective subjects.

(c) *Improvement of the Knowledge of Teachers*

To carry out the recommendations of the Fifteenth International Conference for Secondary Education, the Ministry has organised lectures in the University and the Institute of Education for a large number of teachers, so as to increase their knowledge, both of their subjects and of the methods of teaching them, and to keep them abreast of the latest developments in their profession.

(d) *Scientific Excursions and other School Activities*

Excursions are considered to be an essential part of education. There are certain subjects, such as history, geography and natural science, which cannot be studied to full advantage without visits to monuments and places of historic interest, or without a practical study in the biological research institutions. Each school is granted a sum of money to carry out a programme of scientific excursions.

One of the most important branches of school activity is manual-work training, a subject which is closely connected with the other subjects of the curriculum and is a strong factor in affording a sound practical education in boys' secondary schools. To carry out this reform, qualified teachers in handwork have been appointed.

(4) *The Education of Females*

(a) *Girls' Secondary Schools*

Girls' secondary schools have hitherto been conducted on the same lines as boys' schools, with some slight differences in the subjects

studied Domestic subjects peculiarly suited to female education were almost completely neglected, as it was left to the girls themselves to decide whether or not to receive such instruction at the end of the school day. Enthusiasm for these subjects was naturally very small. It was therefore decided to draw up a special curriculum for the girls' secondary schools, in which the course was made to cover six years, instead of five as prescribed for the boys' schools. The extra year has been added for the following two reasons:

(i) To give more attention to the teaching of domestic subjects in addition to ordinary secondary school subjects

(ii) To safeguard the pupils' health and not to overtax them with work, it is recognised that girls require special attention at this age. Their work should therefore be spread over a longer period.

In the new curriculum, special attention has been given to female education in order to fit girls for intelligent domestic life and render them good wives and mothers as well as good citizens.

After the fourth year, girls in secondary schools will have the option either to proceed in their studies with a view to qualifying for the baccalaureat in the same way as boys, or to exchange mathematics and physics for domestic subjects, child study, drawing, etc.

(b) *Technical Schools for Girls*

To enable the girls to gain their living in a manner befitting their status in Egyptian society, these schools have been recently established. Education is given in cutting out garments, stitchcraft, embroidery and laundry, besides subjects of general culture, such as the French language, art, religion, book-keeping and physical training. The course is of four years' duration. The most promising girls are given an advanced course of two years' duration in one of the three following branches: (i) dressmaking, (ii) lingerie, (iii) millinery.

(c) *School of Domestic Arts*

A most recent attempt has been made to institute a special secondary school for girls on a totally different basis from that of the ordinary secondary school. Here stress is laid from the outset on such subjects as domestic science, child hygiene, art and needlework, besides religion, Arabic and foreign languages and arithmetic. The subjects of general culture receive less prominence than the subjects which fit the girls for their domestic life. It is hoped that these schools will attract those girls who have finished their primary education and for various reasons do not wish to pursue the general course of study in secondary schools.

(d) *Girls' Colleges*

Two special colleges (one in Cairo and another in Alexandria) have been established for the education of the girls of the Upper Class with higher fees and no scholarships. They contain kindergarten

sections, primary, special, secondary and higher sections. An attempt is being made to run these colleges on public school lines.

(5) Technical Education

(a) *Industrial*

Until recently (1937) the Ministry had run two kinds of industrial schools—primary and intermediate. The primary technical schools are free trade schools which the pupils join after their primary education and are taught mechanical and artistic crafts. To cope with recent industrial development, new trades have been introduced into these schools, connected with electricity, wireless telegraphy, motor-car engineering, sanitary engineering, granite-work, boat-building and marine engineering.

In order to encourage ex-apprentices of these schools to practise the trades they have learnt, the Government has allotted a subsidy of £30,000 to enable them to make a start. The Ministry of Education has collaborated with the Ministry of Finance in establishing a workshop for artistic leatherwork and ladies' handbags, and another for the repair of watches and clocks. These workshops will form a nucleus for others to accommodate a large number of ex-apprentices, so that they may always find fields for work open to them.

Until 1937 these schools gave a course of three years for pupils who wished to continue their study in the intermediate technical schools. The pupils who were fit to become instructors in the workshops had an additional course of two years.

It is now suggested that for the preparation of skilled artisans, the course of study will extend to five years.

(b) *The Higher Technical Schools*

These admit boys who have completed their secondary education (general section) and contain many engineering and industrial sections: mechanical engineering, motor engineering, electrical engineering, building and civil engineering and marine engineering. The object of these schools is to prepare the pupils to be engineers, overseers, draughtsmen, or instructors in the primary technical schools, etc.

(c) *The School of Applied Arts*

These admit also pupils who have completed the course of the secondary schools (general section) and the aim is to prepare designers for already existing trades, so as to improve them. Consequently, the following are the sections for specialisation: weaving—carpet-weaving, cloth printing, furniture making, ornamental ironwork, stained and leaded glasswork, wood and ebony carving, metalwork, photography, architecture and decoration, etc.

It has recently been considered advisable to incorporate these crafts under four broad sections: (i) ornamental, (ii) mineral, (iii) furniture and (iv) weaving.

(6) Commercial Education

The intermediate schools of commerce admit boys who have completed their primary course of study. The object is to train boys at an early age to occupy posts as clerks and accountants in business houses and banks, with agricultural firms and in Government administrations. The subjects of study include religion, Arabic, English, French, arithmetic, geography, book-keeping, business training, typewriting (Arabic and English).

(7) Agricultural Education

The intermediate schools of agriculture are also post-primary schools. Their object is to produce practical agriculturists capable of successfully managing their family farms or working on large agricultural undertakings. The course is three years, in which the students receive both a theoretical and practical instruction in agriculture, farming, agricultural products, dairy produce, animal breeding, and the protection of agricultural produce. A committee has been set up to consider how to raise the status of these schools and to suggest reforms.

(8) Higher Education

Higher education in arts, science, law, medicine, agriculture and commerce is given in the six *faculties of the State University*. The regulations of these faculties, as well as the laws of the University itself, have been modified with the object of allowing that institution greater independence in dealing with educational questions. The Government is seriously considering the construction of a University City which will provide houses and hostels for students.

Egyptian professors possessed of the highest qualifications from Egypt and Europe, and European professors from different universities, undertake the teaching in the Egyptian University.

Scientific institutions mainly concerned with advanced post-graduate work and research have been established at the University for specialisation in certain important subjects, such as the Institute of Administrative and Criminal Studies at the Faculty of Law, the Institute of Archæology at the Faculty of Arts, and the Institute of Hydro-biology, affiliated to the Faculty of Science and situated on the Red Sea.

A Higher School of Fine Arts was established in 1929 and is directly under the control of the Ministry with an advisory Committee in order to stimulate an interest in art in its various aspects.

The Two Institutes of Education

These two institutes, one for men teachers and the other for women teachers, have recently been founded to train students for teaching purposes. Each institute has two distinct categories of students: those who prepare themselves to be primary school

teachers, and those who will teach in post-primary schools. The first category are accepted after the secondary course, and are given a course of three years—one year for a further study of general culture subjects with very narrow specialisation and two years for the study of pedagogy, psychology and other similar subjects connected with preparation for the teaching profession. The second category of students are accepted after graduation from the Faculties of Arts and Science, and take the course of two years along with the first category to study educational subjects.

Quite recently it has been thought fit to make no differentiation between the teachers in the district schools, and to prepare a kind of teacher of a higher qualification for all. How far this plan will succeed remains to be seen.

The Dar Al-Hikmah

This is a special higher college for training teachers of the Arabic language and Mohammedan religion. The students are accepted after the completion of their secondary education at Al-Azhar, and receive a course of four years of general culture connected mainly with Arabic and religion and pedagogical subjects.

(9) Other Educational Facilities

The Provincial Councils who up to 1926 ran schools of various types under the inspection of the Ministry of Education have continued to do so. All schools higher than elementary have been handed over to the Ministry and the domain of the Provincial Councils has been restricted to elementary compulsory education. Technical and medical inspection remains in the hands of the Ministry. The Councils receive an annual subsidy from the Treasury.

Private Schools

Many schools of various types are run by private individuals or managed by benevolent societies. They take a great share in the dissemination of education. By law these schools are under the inspection of the Ministry of Education which pays them grants-in-aid. The grants-in-aid have been largely increased with a view to enabling these schools to improve their condition, raise the standard of teaching by the employment of qualified teachers, open their buildings and provide and furnish and re-equip their classrooms and laboratories.

Educational Missions

In view of the rapid progress of the country, it was deemed necessary to prepare a sufficient number of specialists for the different departments of the State. With the opening of the Egyptian University, missions have been confined either to the completion of a particular scientific or practical study or to specialisation in

EGYPT—COMPARATIVE SURVEY OF STATISTICS FOR THE YEARS 1928 AND 1938

TYPE OF INSTITUTION	NUMBER		PUPILS	
	1928	1938	1928	1938
<i>Elementary Schools</i>				
Half-day Schools	1,427	3,484	166,633	857,691
Whole-day Schools	351	253	47,627	38,280
Industrial Maktabas	—	6	—	531
Agricultural Maktabas	—	2	—	102
Preparatory Schools for Boys	11	7	2,239	588
Higher Elementary Schools for Girls	14	22	1,444	1,987
Elementary Training Colleges for Men	25	8	8,243	1,835
Elementary Training Colleges for Women	18	9	2,584	1,011
Kindergarten Schools	21	33	2,036	2,631
Primary Schools for Boys	47	137	16,636	24,609
Primary Schools for Girls	16	31	2,260	3,821
<i>Post-primary Schools</i>				
Secondary Schools for Boys	21	33	13,595	17,176
Secondary Schools for Girls	1	8	190	1,573
Technical Schools for Girls	—	6	—	1,278
School of Domestic Arts	—	1	—	106
Girls' Colleges	—	2	—	314
Primary Industrial Schools	7	25	1,859	11,700
Applied Engineering Schools	2	2	1,784	1,617
School of Applied Arts	1	1	222	522
Intermediate Schools of Commerce	3	5	1,106	2,080
Intermediate Schools of Agriculture	3	4	409	1,620
Institute of Education, Men	—	1	—	154
Institute of Education, Women	—	1	—	183
Higher Training College	1	—	1,107	—
Dar-El-Ulum	1	1	582	349
Higher School of Fine Arts	—	1	—	96
<i>Private Schools</i>				
Primary (Boys and Girls)	179	353	11,160	53,480
Secondary (Boys and Girls)	46	77	8,637	10,948
<i>The University</i>				
Faculty of Law	1	1	649	2,527
Faculty of Arts	1	1	381	1,162
Faculty of Science	1	1	279	394
Faculty of Medicine	1	1	632	582
Faculty of Agriculture ¹	1	1	218	994
Faculty of Commerce ¹	1	1	402	1,334
Faculty of Engineering ¹	1	1	501	948
School of Veterinary Medicine ¹	1	1	79	202
Dental School	1	1	80	84
School of Pharmacy	1	1	37	51

¹ Were not affiliated to the University in 1928

certain industries which are non-existent in Egypt. Recently it has been found necessary to send Egyptian students to England and France to study English and French in order to prepare them to teach these languages in secondary schools, so as to replace foreign teachers.

Physical Culture

As a result of the attention given to the education of youth on modern lines, physical training and sports have been made compulsory in all schools. Programmes suited to the age of pupils have been drawn up and are included in the daily syllabus along with other subjects. Physical training has thus become an essential item of the syllabus in all boys' and girls' schools throughout the country. A special administration composed of specialists for the supervision of physical training has been created. The programme of physical culture comprises drill as well as reformative and educative exercises, team games and sports competitions. The special sections include swimming, life-saving, football, boxing, fencing, tennis and basketball.

It is recognised that the encouragement of physical culture should go hand in hand with the development of compulsory education throughout the country, with a view to raising a healthy and sporting younger generation.

The *Boy Scouts* and the *Girl Guides* movement is receiving a great deal of attention, and the fact that His Majesty the King is the Chief Scout has greatly contributed to its development. There are now 225 companies, comprising 6,500 Scouts, all of whom are schoolboys, and about 4,000 Girl Guides enlisted in more than 140 companies.

With a view to encouraging the teaching of physical culture, a school for the training of instructors has been opened, and new swimming-baths will be constructed.

The interest taken by the Government in the development of this movement has led to the creation in provincial centres of various sporting clubs, unions and associations subsidised by the Government. A Royal Decree establishing a National Sporting Committee to supervise the activities of these clubs and associations has also been promulgated.

Finally, the Government has, in view of the general sporting revival, sent missions of men and women students to Europe to study the new methods of physical culture and to take part in international conferences and in the Olympic Games.

MOHAMMAD AWAD IBRAHIM

PART TEN

Current Research in Education

CHAPTER ONE

Introductory Note

THE Editorial Board has decided to try the experiment of including in the YEAR BOOK for 1939 abstracts of theses submitted for higher degrees in education in the University of London. Every year a considerable volume of valuable work is embodied in these dissertations, and, though a few are published, the majority can be consulted only in the University Library. The Board feel that many of them should be made more accessible, as being of interest either to experts or to a more general public.

The four theses here summarised were presented in the session 1937-8 by students of King's College. Dr Hitchcock's contribution (which formed a part of his work for the Ph D) presents a new approach to the study of educational progress. There must plainly be some connection between book production and literacy, and between the publication of learned books and the state of the universities. Dr Hitchcock has made a very careful preliminary survey, his conclusions are of undoubted significance. Readers will find his diagrams particularly valuable, since they give at a glance so much information.

Dr Worden's scholarly thesis, though appealing specially to the classicist, is a very real contribution to the general history of education. The thesis itself forms two large volumes, and contains *in extenso* many sources (in Latin and in original translations) that the student will not find elsewhere. Dr Worden traces the vicissitudes through which the study of Latin has passed—e.g. the constantly recurring conflict between the desire to preserve the purity of the classical language and the debasement that resulted from its use as a medium of communication. In his later sections he explains and illustrates the progress of grammar teaching, and discloses the foundations on which was built the "authorised" Latin Grammar. No subject of the curriculum has so long a history as Latin. I do not think that its pedigree (in this country) has ever been so clearly traced.

Mr Pritchard's thesis (for the M A degree) should be of wide interest. He establishes the fact that the preparatory school (as distinguished from the private school catering for older children) goes back farther than is usually supposed, and he adduces good evidence for attributing its origin to English Catholics in the eighteenth century. His criticisms of the Common Entrance

Examination and its influence are undoubtedly valid, but as he shows, there is a gradual widening of the curriculum and the outlook of preparatory schools. And those that form the actual part of public schools seem to have the best chance of survival.

Finally, Mr. Young deals with what is both an important chapter of history and a problem that has become insistent in our day. The case of the Magdalen Fellows is notorious, but it is less generally realised that the fight for academic freedom went on under the early Stuarts and the Commonwealth. Nowadays State interference is political rather than religious, but it is none the less offensive. Mr. Young's account helps to explain the passionate distrust of the State that formerly existed—and that showed itself, e.g., at the time of the Royal Commission on Oxford in 1850. During the nineteenth century State intervention in English education was for the most part benevolent and unpolitical, but there are to-day ominous forebodings that our boasted intellectual freedom may be restricted. Knowledge of past abuses will serve at least as a warning.

L. A. C. WILKINSON

CHAPTER TWO

STATISTICAL BIBLIOGRAPHY IN RELATION TO MODERN CIVILISATION

"If civilisation is but the product of the human mind operating upon the shifting platform of its environment, we may claim for bibliography that it is not only a pillar in the structure of the edifice, but it can function as a measure of the varying forces to which the structure is continuously subjected"

E. W. HULME

Introduction

THE problem of the organisation and codification of knowledge has already received attention from our social thinkers¹ but the possibility that bibliography can "function as a measure" of forces within the social structure has been, it may be submitted, insufficiently recognised. Yet if the literature of an age reflects its cultural interests, the changes in man's intellectual attitude can best be studied by investigation into the extent and nature of his writing and reading at different periods. That bibliographers are in some measure conscious of this is evidenced by Arber's statement in the preface to *The Term Catalogues*² that the number and nature of religious books published from 1668-1709 (as given by *The Term Catalogues*) indicates the prevailing interest at the time and should correct the impression, obtained from the study of its drama, that the Restoration Age was a licentious one. Arber is here endeavouring to measure cultural development by means of the number and nature of books published—he is applying the elements of statistical method to bibliography.

It may seem surprising that, with the growth of interest in statistical method applied to sociological problems, this approach has not been further exploited. The chief reason for the omission must be sought in the paucity of the material available and in the complexity of the problem itself. The compilation of statistical

¹ H. G. Wells, *The Idea of a World Encyclopedia*, 1936.

² E. Arber, *The Term Catalogues*, 1906, vol. III, p. vii. "What then are the literary results of the reproduction of this Bibliographical Series? We must largely revise our ideas as to the general character of English Literature during the Restoration Age, 1660-1685 A.D. Hitherto the books of that period have been somewhat shunned, as being flagrantly immoral or singularly dull. That opinion, however, has no other foundation than our own ignorance. As a matter of fact that age was eminently a sober one. The general tone of its books was deeply religious. The Restoration Drama deserves all the obloquy and scorn that it can ever receive. But as this contemporary Bibliography clearly shows all those shilling plays do not form Two per Centum of the total English books of the Time whether as regards their printed bulk or their price. It was the religious people first and the scientists next, that made the fortunes of the London Book trade."

data by official or other bodies was not considered to be a matter of great importance until about the beginning of the nineteenth century when men began to appreciate the need for more adequate knowledge of the facts in order to decide on proper methods of legislation. Official maps were prepared, the first census was taken and statistics relating to a variety of movements and activities of the community were collected regularly and in an orderly way. The value of evidence of this kind was soon apparent and the scope of such inquiries was gradually enlarged. But as yet, we have no official annual or decennial return of the number and nature of books published or sold. Given such returns, and a science of bibliography so organised as to enable us to determine year after year the correct numbers of books produced or sold, we could obtain some approximation to the growth of the reading habit and if, further, these books were systematically divided into subject classes, we could have more precise knowledge of the taste of the reading public. It is not possible at present to trace either movement with any accuracy but such we may begin to compile data that will make it possible later.

A picture of our actual and more extensive returns of bibliographical material would be idle if it could not be demonstrated that such returns are likely to yield results of social significance, and such a demonstration is here attempted from data found in the *Short Title Catalogue*,¹ the *Form* and other *Trade Catalogues*,² in the editions of books published annually given in the *Publisher's Circular*,³ in the statistical surveys of various individual publishing firms,⁴ and by means of the pioneer work of Professor Cole and Miss Fales,⁵ and of Mr. L. W. Hume,⁶ data which, though lacking the accuracy and completeness of official returns, may be used as indirect measures of cultural development. If we wish so to use our material, several assumptions have to be made. The statistician must be forced to consider in each case is the edition of a book issued in a particular year. The books themselves are of varying lengths and merits and are obviously of very unequal cultural value; the number of copies of each issue printed and sold are quite unknown and the number read quite indeterminable. Our figures are rather like Intelligent Quotients in that they measure something definite but there is no guarantee that they measure adequately that variable factor which interests us. Something like an act or value is required.

¹ A. W. Pollard and G. R. Redgrave, *Short Title Catalogue to 1700* (London, 1926).

² See index and Clavel's, *The Form Catalogues, 1668-1700* (London, Catalogue, 1771; Whitford's Catalogue, 1723-29; Clavel's Catalogue, 1773-75).

³ *The Publisher's Circular*, 1839-1937. Circular lists of books published, usually given in list number in December of preceding year.

⁴ E. M. F. A. *A Brief Account of the Form and Price of Old and New Books* (Oxford, Printed, 1908).

⁵ L. J. Cole and N. B. Fales, *Source Publications* April 1927. *History of Copyright in America*.

⁶ L. W. Hume, *Statistical Bibliography in Relation to the Growth of Modern Civilization* (1923).

(as in the case of the Intelligence Quotient) to persuade us that what we measure is a good enough index of what we want to measure.

Our thesis is that the statistics of book production to be discussed can be accepted *in a general way* as giving a reliable indication of the main trends of cultural development in the past 450 years. There would be little point in attempting at this stage to show the reasonableness of such a working hypothesis, as the matter is one which the reader can judge for himself after considering the evidence presented. It must be emphasised that the statistics cannot be supposed to present a complete picture of cultural growth: only one aspect of a complex situation is considered. We may, at least, hope to decide from such evidence whether progress was continuous or intermittent and whether it was modified appreciably by historical occurrences or determined primarily by other factors.

In a summary of this kind considerations of space prevent anything but a brief outline of a selection of the available results, and for more detailed information relating to the material the reader must be referred to the original sources indicated.

Material chosen for Discussion

The material chosen for discussion here falls into two main classes, the first dealing with the output of books or publications from a particular source or sources over a long space of time without any subject classification, the second showing the output for a much shorter period, but giving details of subject classification. Greater emphasis will be placed on the data contained in the second of these two classes, since the statistics are more complete and more accurate, and the conclusions of more immediate significance. In this account consideration has been limited to the data as expressed in five- or ten-yearly averages, though the returns for individual years are not without interest.

The nature of the statistical unit has already been discussed, we must remember, too, that the mechanism of the publishing trade is a complicated one: books are not always produced because there is felt to be a need for them or even because they are likely to yield a profit. A variety of causes operate, and they may change from publisher to publisher and from age to age.

It must further be admitted that these *samples* of the output of printing are themselves of unequal value and are not strictly comparable, since they do not define the unit "book" in precisely the same way.¹ The accuracy of our figures becomes less as we journey back into the past, and though some of the consequences of these inaccuracies are avoided if periods of, say, ten years rather than single years are considered, the objection may be lodged that any conclusions drawn from such material are valueless. We cannot

¹ For example, in the *Short Title Catalogue* all pamphlets, even those consisting of a single sheet, are recorded. Madan excludes pamphlets of less than four pages. *The Term Catalogues* list only licensed books.

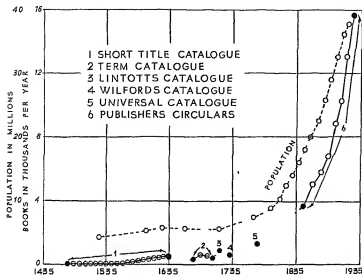


FIGURE 1

hope to secure measures of sociological data which can equal in precision those of the physical scientist, and the frank admission of this does not mean that these approximations are valueless, though it does place on us the responsibility to "labour honestly and fairly on the materials"¹ and to exercise great caution in the interpretation of the results. The comparison of different sets of material makes it possible to assess to some extent the value of the conclusions derived from each, and there is every promise that it would be possible to give greater precision to the general deductions reached if more material than that used in this study were collected and treated comparatively.

Analysis of Figure 1

The statistics of the output of English printing taken from the *Short Title Catalogue* and from the various *Trade Catalogues* can be combined to give a first approximation to the growth of English printing. It must be remembered that the measures obtained for any period are but samples of the whole, and it cannot be too strongly emphasised that the samples are of different kinds and not strictly comparable. The picture obtained, therefore, by joining the points is necessarily but an approximation and the heterogeneous nature of the samples has been acknowledged in Fig. 1, where we have used a dotted line to join the last point of one sample to the

¹ Thorold Rogers

first of another All the points represent average annual production and are obtained as follows

PERIOD	SOURCE	NATURE OF AVERAGE	No OF POINTS
1 1475-1640	Short Title Catalogue	10-yearly	16
2 1669-1709	Term Catalogue	10-yearly	4
3 1714	Lintott's Catalogue	8 months	1
4 1723-1729	Wilford's Catalogue	6 years	1
5 1773-1775	Universal Catalogue	3 years	1
6 1839-1937	Publishers' Circular	10-yearly	7

On Fig 1 is also drawn the graph representing the growth of population The figure is put forward with reservations, but the steadiness of the curve and its close association with that showing the growth of population are surely significant At the present day there is a retardation in the growth of population, and this will be indicated by a flattening in the graph, at the moment there seems to be no indication of a similar retardation in the production of books, for the curve seems to be tending to become slightly steeper The part of the graph on which we can place most reliance is, of course, that based on figures from the *Publishers' Circular* It would appear that, considered in periods of ten years, the British book trade has enjoyed continued and uninterrupted progress since 1840 It is difficult to realise that for four of these years the country was waging a major war A decline in the War years did, of course, take place, but the recovery was so rapid that the decline is not apparent if periods of ten years are considered This is in itself remarkable The steadiness of growth, coupled with the close association with the growth of population, would suggest that the production of books is one of the deep-seated movements in our national life

Analysis of Figure 2

It is now proposed to consider the volume of printing from the Oxford University Press from 1590 to 1920 and the output of literature in Comparative Anatomy from 1600 to 1860 These are represented diagrammatically in Fig 2 The graphs for literature in Comparative Anatomy in England and in Europe are closely similar, and for the sake of clarity only the one for English productions has been shown For reasons to be explained later the graphs showing the growth in population and the number of university matriculants at Oxford and Cambridge have been included These graphs show the movements they represent to be much less steady and much less closely associated with population growth than the one previously considered, though they both show the rapid growth in the nineteenth century, which can be closely connected with that in population The most striking deviation lies in a steady decline

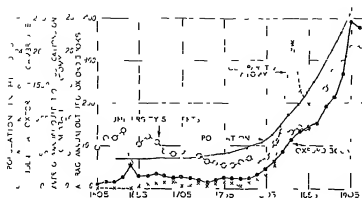


FIGURE 2

which set in during the last thirty years of the seventeenth century and reached its nadir during the middle years of the eighteenth century, after which a slow recovery set in. A similar decline occurred as will be seen in the numbers of university students. The extent of these declines can be shown by the figures for the fifty-yearly periods in the seventeenth, eighteenth and nineteenth centuries given below.

TABLE 14

NUMBER OF BOOKS ISSUED BY THE OXFORD PRESS, NUMBER OF PUBLICATIONS IN COMPARATIVE ANATOMY, NUMBER OF STUDENTS MATRICULATING AT OXFORD AND CAMBRIDGE, 1600-1850, EXPRESSED AS TOTALS OF FIFTY YEARS

PERIOD	OXFORD PRESS	COMPARATIVE ANATOMY	STUDENTS
1600-1650	3	36	1,165
1650-1700	51	39	1,130
1700-1750	72	211	1,105
1750-1800	76	730	1,165
1800-1850	1,016	5,191	1,115

We are also told that the growth of activity in the patent system in England between 1660 and 1700 was not maintained in the period from 1700 to 1750.¹ Further, it is admitted that in the eighteenth

¹ The figures for the Cambridge Press cannot be so treated. They are not at this date 1750 but the graph shows a slight tendency to decline. T. W. Hulme, *op cit* p. 124, 19.

century the Established Church was in a state of decay, and Church historians place the nadir in the middle of the century¹

Difficulties in interpreting Long-range Movements

The suggestion of Cole and Eales that the decline in the number of publications dealing with Comparative Anatomy in England and Europe during the early years of the eighteenth century was due to a falling in the birth-rate of eminent anatomists between 1650 and 1700, as compared with that for 1600 to 1650, does not carry us far. The thesis maintained by our authors is that there is a positive correlation between the output of literature in a particular subject and the number of writers who made their names in it. The absence rather than the presence of such a correlation would occasion surprise. But it may reasonably be asked why there were fluctuations in the number of those who devoted themselves to the subject, such fluctuations being naturally reflected in the number of writings. We must exercise great caution in interpreting long-range movements of the kind under consideration. The mechanism of the publishing trade, the attitude with which inventors may regard the patent system, are both subject to secular change, but it is surely safe to suggest that these declines may be considered symptoms of an unprogressive stage in civilisation. It would be rash to suppose that the decline in the number of university students was *due to* a decline in the cultural activity of the Church, or that the lowering of the output of books at Oxford was *due to* the general supineness of the University at the same time. What is suggested is that they are in some way correlated, and correlation is not causation. It may be that all these movements are reacting to a deep-seated and widespread disturbance of which at the moment we have no exact knowledge. This is a preliminary survey and of necessity largely descriptive. The evidence would point to the first half of the eighteenth century as a period of steady decline in educational, intellectual and scientific development and to the latter half as one of slow recovery. The period is, however, counted a flourishing one in the history of English art and architecture. The assembly of more quantitative measures of cultural progress might enable us to interpret the age with greater accuracy.

Assessing the Value of Bibliographical Statistics

In our attempt to demonstrate the value of bibliographical statistics as a measure of cultural development, we have chosen to consider first long-range movements, which indicate, in a general way, aspects of development over a long period of time. The *Publishers' Circular* has issued every year since 1869 a list showing the number of books published during the year. The voluminous array of statistics cannot receive the extensive treatment it deserves.

¹ Overton and Relton, *The English Church, 1714-1800, 1906*, page 73

within the limits of this survey, and our thesis is perhaps best supported by a somewhat detailed account of the data which cover a restricted period. The method of classifying the books into subjects was altered in 1911, and we have, therefore, in the period 1911-35 a self-contained unit which permits detailed analysis. From 1911 onwards we have statistics relating to the number of new books, new editions, pamphlets and translations published every year, arranged first in twenty-three and later in twenty-five groups. In the analysis that follows twenty-four groups have been considered throughout. Periods of five years have been used in order to examine the effect of the War on the volume of publications, which effect would have been to some extent masked had intervals of ten years been used. It may be suggested that the time-interval used is not satisfactory, since the first period (1911-15) contains one and a half years of the War and the second (1916-20) nearly three years. An examination of the yearly totals for the years 1913 to 1920 (the War years and those immediately preceding and following them) shows, however, that they are not so unsuitable as might appear at first. In round numbers these five-yearly totals are

58,000 for 1911-15,
45,000 for 1916-20,

and thereafter a steady rise to

76,000 for 1931-35

The yearly totals are

1913	1914	1915	1916	1917	1918	1919	1920
12,379	11,537	10,665	9,149	8,151	7,716	8,622	11,004

The decline is seen to have been gradual, with the greatest fall in 1916, and there was no complete recovery until after 1920. The most marked effects of the changing conditions were not manifest at once: there was a lag of a year or two. Either 1915-19 (for which the total number of publications is 44,283) or 1916-20 (with a total of 44,622) might have been chosen to reveal the influence of the War. These totals are very close, and the second interval was actually chosen because the new subject classification began in 1911, giving 1911-15 as the first five-yearly interval under the new régime. The numbers of publications for these years were effected by war conditions, it should be remembered, but not to nearly the same extent as were those of the following quinquennium, 1916-20.

Analysis of Tables 2 and 3

Table 2 gives the number of new books and new editions separately for each of the twenty-four subject groups. In Table 3, the new editions are expressed as percentages of the total of books

TABLE 2

THE NUMBERS OF NEW BOOKS AND NEW EDITIONS
IN INTERVALS OF FIVE YEARS FROM 1911 TO
1935 CLASSIFIED IN SUBJECTS IN THE "PUB-
LISHERS' CIRCULARS"

	1911-15		1916-20		1921-25		1926-30		1931-35	
	nb	ne	nb	ne	nb	ne	nb	ne	nb	ne
Fiction	5,898	5,090	4,500	3,203	6,050	5,858	8,854	9,153	9,719	12,059
Religion	3,701	781	1,112	300	3,770	648	4,270	623	4,006	712
Science	2,402	486	1,706	311	2,045	432	2,708	455	2,683	461
Sociology	3,403	341	3,260	211	4,103	272	4,490	252	4,869	955
Juvenile Works	2,421	919	2,315	501	3,260	1,461	4,012	1,890	5,133	2,460
Geography and Travel	2,807	610	1,710	231	2,696	612	3,621	551	2,702	614
Poetry and Drama	2,226	1,007	2,421	374	2,802	507	3,019	913	2,011	602
Technology	2,538	481	1,863	474	2,791	619	2,559	130	2,469	594
History	2,818	812	2,611	190	2,072	200	2,379	288	2,528	311
Biography	2,000	109	1,379	120	2,045	127	2,918	108	3,150	017
Literature	1,656	603	1,226	306	1,880	508	2,026	160	2,061	416
Medicine	1,686	605	1,172	414	1,647	499	1,709	501	1,781	520
General Works	1,551	18	807	4	1,007	12	959	1	918	0
Education	1,415	128	1,078	41	1,058	91	1,121	112	1,089	150
Law	1,129	314	806	206	985	762	1,009	429	916	372
Philosophy	1,104	197	1,030	131	1,251	239	1,262	210	1,229	192
Fine Arts	1,058	128	717	57	1,276	179	1,549	105	1,308	128
Agriculture & Gardening	924	102	615	118	851	120	818	102	801	160
Physiology	866	128	729	106	812	132	939	160	1,199	157
Business	804	116	781	91	657	116	630	142	625	169
Games	652	120	327	73	816	162	874	119	1,147	219
Domestic Arts	427	65	292	62	284	64	389	55	490	81
Misc	270	42	308	17	453	59	390	46	376	54
Military and Naval	(704)	(113)	1,490	144	1,064	109	964	116	600	229
TOTALS	41,630	12,032	36,958	7,664	40,217	12,803	52,885	17,602	54,501	21,688

Military and Naval The figures enclosed in parentheses are for 1914 and 1915 only

(new books and new editions combined) in each category, i.e. for each quinquennium and each subject considered separately. The first question to be considered concerns the ways in which the relative numbers of reprinted works show secular change, and the differences between different subjects in this respect.

For the earlier period, 1870-1910, these proportions showed marked fluctuations, which were assigned to faulty classification. A preliminary examination of the figures in Tables 2 and 3 shows that the fluctuations are on the whole less marked than those observed for the earlier period. The system is far more orderly, suggesting an improvement in classification. Suspicion is aroused only in the case of the General Works (Encyclopædias and Magazines) category, which shows by far the lowest percentages throughout, with no reprinted works recorded for 1931-5. It is probable that the figures for this group are affected by some change in the convention used in defining new editions, but there is no obvious indication of inconsistency of the same kind in the case of any other subject group. This conclusion to some extent confirms the proud boast of the editor of the *Circular* that the table had been

TABLE 3

THE NUMBERS OF NEW EDITIONS EXPRESSED AS PERCENTAGES OF ALL BOOKS FOR INTERVALS OF FIVE YEARS AND SUBJECT GROUPS USED IN THE "PUBLISHERS' CIRCULARS"

SUBJECT GROUPS	1911-15	1916-20	1921-25	1926-30	1931-35
Fiction	46.3	41.6	49.2	52.3	55.4
Religion	17.4	9.5	12.7	12.7	14.9
Science	12.9	15.1	14.0	13.8	14.7
Sociology	9.1	6.3	6.2	5.5	6.8
Juvenile Works	27.4	17.8	30.9	27.1	31.5
Geography and Travel	15.6	12.0	16.7	17.4	19.2
Poetry and Drama	32.4	13.4	22.0	23.6	21.0
Technology	16.0	20.4	15.7	14.5	19.4
History	12.9	6.8	11.1	10.0	11.0
Biography	17.0	9.0	17.3	12.3	17.0
Literature	23.3	14.4	21.3	18.6	16.9
Medicine	23.6	23.2	23.3	22.7	22.6
General Works	1.1	0.5	1.2	0.1	0
Education	8.7	3.8	8.0	9.0	12.5
Law	22.8	19.2	27.5	29.7	28.9
Philosophy	15.1	11.3	16.0	14.3	13.6
Fine Arts	11.7	7.4	12.6	9.7	8.9
Agriculture and Gardening	9.9	11.4	12.4	11.1	15.2
Philology	12.9	12.8	17.9	14.6	11.6
Business	12.6	10.4	15.4	18.4	18.2
Games	17.9	18.3	16.6	14.6	17.8
Domestic Arts	13.2	17.5	18.4	14.0	14.2
Music	10.4	5.9	10.9	10.4	13.6
Military and Naval	13.2	8.8	9.3	13.3	25.5
All subjects	22.5	17.2	23.0	25.0	28.4

compiled in exactly the same way for many years, thus providing the only satisfactory basis for the comparison of one year with another

Analysis of Figure 3

There are some clear differences between the subjects in the respect considered, but it is possible to divide them into a few fairly well-defined classes according to the kind of progression shown by the percentages. The arrangement which appears to be most suggestive is illustrated in Diagrams A, B and C of Fig. 3. The figures for nine of the subject groups are used in Diagram A, as well as for the totals of all the subjects combined, i.e. for all books published. These graphs are alike in showing a clear decline from the first to the second interval, followed by a partial or more than complete recovery in the third, and then a clear indication of a continued upward trend until the end of the period. For four of the nine

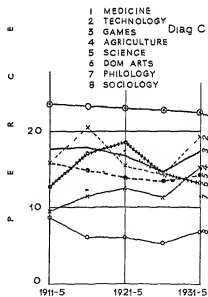
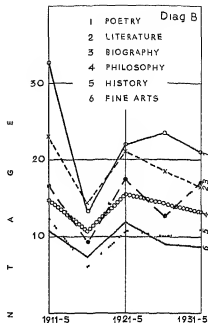
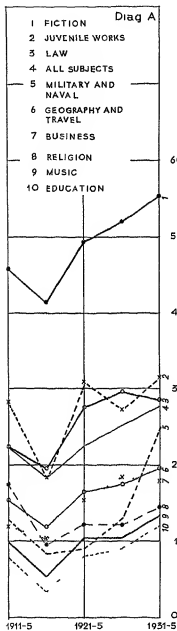


FIGURE 3

groups, viz for Fiction, Geography and Travel, Education and Military and Naval, as well as for all subjects combined, the percentages show a continuous increase after the War years (1916-20) and the last figure available (that for 1931-35) is appreciably higher than the initial value. For four others, viz for Juvenile Works, Law, Business and Music, the increase from the nadir for the War years is not so regular, but either the latest figure or the one preceding it is the highest, and the maximum is appreciably higher than the initial value. The last of the nine subject groups under consideration is Religion, and its percentages show a steady increase after the fall during the War, but the latest value (for 1931-35) is still lower than the earliest (for 1911-15).

The general trends are thus remarkably alike in these nine cases. The only differences of much significance between the graphs appear to be (1) that noted in the case of the Religion group and (2) the exceptional increase in the percentage of new editions of Military and Naval books between 1926-30 and 1931-35. The latter cannot be explained as due to a sudden increase in demand which could be met only by issuing an unusual proportion of reprints, for the total numbers of works in this category show a steady fall since the War. The subjects classed together in Diagram A do not themselves all form part of a wider homogeneous class—they are not all literary or all scientific, for instance—but they form a miscellaneous collection.

Diagram B of Fig. 3 treats six other subjects which are associated owing to similarity of fluctuation of their percentages. All the graphs show a fall at first, followed by a partial or more than complete recovery in the third quinquennium—precisely as in the first class—but in the post-War years they show no tendency to increase, either maintaining the level reached or tending to decline. It may be noted that all the groups assigned to this class are of a literary character, the only literary subjects not included in Diagram B being Fiction and Juvenile Works (Diagram A) and Philology (Diagram C).

The remaining eight subject groups are shown together in Diagram C less because their graphs conform to the same type than because they cannot be assigned to either of the two other classes. One only (Sociology) shows a decline in the War years, and two (Technology and Fine Arts) are distinguished from all other subjects because their percentages for 1916-20 are appreciably higher than the 1911-15 values. The figures for Medicine and Science show a remarkable stability throughout the period, and the other graphs, three in number, show marked fluctuations, though they have individual peculiarities. It may be noted that the graph for Philology is very similar in type to those of the literary groups treated in Diagram B; it differs from them only in not showing a lower percentage for 1916-20 than for 1911-15. Excluding Philology and Games, the subject groups in the third class are all of a scientific or technical character.

Summary of the Main Tendencies

Detailed comparisons of a body of statistics are liable to be tedious and confusing. We must attempt to sum up the main tendencies shown by the numbers of new editions expressed as percentages of all the books published in the various categories. For this period (1911-35), unlike the preceding one (1871-1910), there is no reason to suspect vitiation of the figures by any change in the method of classifying new books and new editions. Only in the case of General Works do we discern the likelihood of inconsistency; it appears safe to accept the other figures as data which can be used to estimate secular change.

Decrease in Reprinted Works during the War

The outstanding fact revealed by them is that during the War years the relative number of reprinted works fell markedly. There was a general decline in book production, and at the same time the proportion of works which could be classed as new editions became smaller. After the War there was a rapid return to the pre-War situation. These generalisations are true for all books combined and for fourteen of the twenty-four subject groups, considered singly. Of the remaining ten, four (Religion, Military and Naval, Sociology and Poetry and Drama) show this lowered proportion of new editions for 1916-20, but they remain at a lower level for the interval 1921-25. The other six show different sequences, but only three (Technology, Domestic Arts, and Agriculture and Gardening) had an appreciably higher percentage of new editions in the War period than in the preceding quinquennium. The fall in the relative number of reprinted books during the War was general but not universal.

The post-War years show smaller fluctuations but more variety in the forms of the sequences of the percentages. Between 1921 and 1935, the proportion of new editions to the total output can be said to show a clear and fairly steady tendency to increase in the case of Fiction, Law, Geography and Travel, Military and Naval, Business, Religion, Music and Education, a clear and fairly steady tendency to decrease in the case of Literature, Philosophy, Fine Arts, Philology, Domestic Arts and General Works, no appreciable change in the case of History, Medicine, Science and Sociology, and rather marked fluctuations but no steady tendency to rise or fall in the case of the remaining six, viz. Juvenile Works, Poetry and Drama, Biography, Technology, Games and Agriculture and Gardening. In general, literary subjects (excluding Fiction) have shown a decreasing proportion of reprinted books since the War.

This fall in the proportion of reprinted books during the War is particularly interesting, for it is so marked, and yet there seems no reason for anticipating it. In times of stress, public interest is focused on the present rather than on the past, it is true, and if the number of books printed is suddenly restricted, the publishers may

reach the full quota in new books. On the other hand, after a year or two of war conditions the supply of new material is likely to fall and the publishers may turn to reprints in order to keep the presses at work. When we remember that new editions include both reprints of classical works written long ago and reissues of recent works for which the demand has exhausted the stock, we can only suppose that the figures we are considering were influenced by the interaction of a number of changing conditions.

Lest the fact that the figures are totals for five years should be obscuring the change which took place during the War, we have expressed the numbers of new editions as percentages of all books published (combining all the subject groups) for the War years and for the years immediately preceding and following them.

New editions as % of all books	1913	1914	1915	1916	1917	1918	1919	1920	1921
	22.0	23.2	20.3	17.6	18.8	12.6	15.0	30.6	29.6

The decline in the proportion of reprints was, in fact, fairly steady throughout the War, but the return to the pre-War situation was about complete by 1920.

It might be suggested that there is a correlation between the number of books published and the proportion of them which is made up by new editions, so that these two varieties tend to rise or fall together. An association of this kind does appear to hold at different times in the case of the total book production, but there is no suggestion that it applies in the case of the subject groups considered singly. Evidence of other kinds would apparently be needed to explain satisfactorily the fluctuations in the relative numbers of new and reprinted books.

Differences between Percentages for Different Subjects

The last point to be discussed regarding the data presented in Tables 2 and 3 and in Fig. 3 concerns differences between the magnitudes of the percentages for different subjects. In spite of secular fluctuations, there are no marked changes throughout the period 1911-35 in the order of the groups when arranged according to size. A classification of the following kind can be made.

(a) New editions, about 50 per cent of all books published—Fiction.

(b) New editions, about 20-30 per cent of all books published—Juvenile Works, Poetry and Drama, Law, Medicine.

(c) New editions, about 15-20 per cent of all books published—Business, Technology, Games, Geography and Travel, Literature, Biography.

(d) New editions, about 10-15 per cent of all books published—Religion, Music, Agriculture and Gardening, Domestic Arts, Science, Military and Naval, History, Philology, Philosophy.

(e) New editions, generally less than 10 per cent of books—Fine Arts, Sociology, Education, General Works.

Fiction takes an outstanding place at the head of this list, and it is

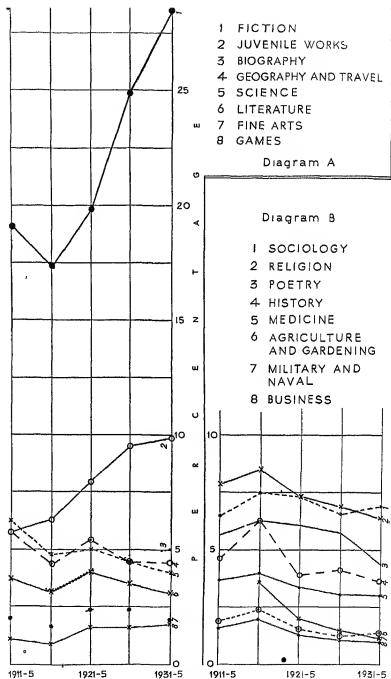


FIGURE 4

also the subject group with by far the largest production. The juvenile group is also high in both scales, whereas Medicine and Law show high percentages of reprinted works but small outputs. In fact, there seems to be little, if any, correlation between the proportions of new editions and the numbers of books published on any subject. There are surprising differences between the proportions shown by cognate subjects such as Medicine (showing a high percentage of new editions) and Science (showing a rather low percentage). The levels of the proportions and their fluctuations appear to be largely peculiar to the individual subjects, and hence it is difficult to formulate any wide generalisations concerning them.

Analysis of New and Reprinted Books, 1911-35

The total number of books—new and reprinted works together—will now be considered for the period 1911-35. For each quinquennium the total for a particular subject group is expressed as a percentage of the total number of books in all subjects published in the quinquennium, so that the relative fortunes of different subjects within the period can be easily compared. It should be remembered that the volume of printing showed a clear decline for the War years (interval 1916-20), a return to the pre-War level in the next five years and thereafter a steady expansion. We shall now examine the proportions of the component parts, noting the changes which took place while the whole was expanding in spite of a temporary check.

The actual figures and the proportions are given in Table 4, and the two diagrams in Fig. 4 facilitate comparison between the different ways in which the percentages change with time. The grouping of subjects adopted in the diagrams was suggested principally, but not altogether, by the effect of the War period on the proportion of each subject to the whole. Of the eight subjects treated together in Diagram A (numbered 1-8 in Table 4), seven show a clear decline during the War, followed by a recovery in the succeeding five years. Of the eight subjects treated together in Diagram B (numbered 9-16 in Table 4), seven show a clear rise during the War, followed by a decline in the succeeding five years. The other subject group here is Military and Naval, and it is probable that it was affected in the same way, though this cannot be demonstrated, since the figure for 1911-15 is not available. The remaining subject groups (numbered 17-24 in Table 4), show no marked fluctuations between 1911 and 1925. The closeness of the figures renders graphical representation difficult, but the steadiness of the proportions can be appreciated from the actual figures. The exception in Diagram A is the Juvenile group, which stands apart from all the others in that it shows a clear rise during the War, followed by a still more marked one in the succeeding five years.

It is evident that with the restrictions of the War years, leading to a general decline in the total number of books issued, there was a

TABLE 4

THE NUMBERS OF BOOKS (NEW AND REPRINTED TOGETHER) CLASSIFIED IN SUBJECTS AND IN INTERVALS OF FIVE YEARS FROM 1911 TO 1935, FROM DATA GIVEN IN THE "PUBLISHERS' CIRCULARS"

SUBJECTS	TOTAL PUBLICATIONS					% of total for quinquennium				
	1911-15	1916-20	1921-25	1926-30	1931-35	1911-15	1916-20	1921-25	1926-30	1931-35
1 Fiction	10,988	7,702	11,914	17,507	21,774	18.0	17.9	19.8	21.8	28.1
2 Juvenile Works	3,344	2,816	4,721	9,712	7,193	5.8	5.3	7.9	16.6	10.8
3 Biography	2,400	1,105	2,470	3,926	3,797	4.2	3.1	1.1	1.7	5.0
4 Geography and Travel	4,326	1,941	3,238	3,186	5,446	6.8	1.1	5.1	1.9	4.1
5 Science	3,747	5,080	3,077	3,143	3,114	6.5	4.7	5.1	1.9	1.1
6 Literature	2,166	1,132	2,389	2,601	2,467	3.7	3.2	1.0	3.5	3.2
7 Fine Arts	1,176	744	1,416	1,716	1,480	2.0	1.7	2.4	2.4	1.0
8 Games	672	100	977	1,023	1,596	1.3	0.0	1.6	1.8	1.8
9 Sociology	3,744	3,381	1,376	4,572	5,214	6.5	7.8	7.9	6.6	6.8
10 Religion	4,482	1,772	3,024	1,393	1,768	7.8	3.5	7.1	6.2	3.3
11 Poetry and Drama	4,295	2,795	3,960	3,929	3,303	7.7	6.8	9.1	8.7	4.1
12 History	2,660	2,801	2,333	2,867	2,859	4.6	6.1	3.9	4.1	3.7
13 Medicine	2,141	1,786	2,016	2,310	2,104	3.7	1.9	3.4	3.1	3.0
14 Agriculture and Gardening	1,026	1,033	971	920	1,051	1.8	2.9	1.9	1.3	1.1
15 Military and Naval	(860)	1,631	1,173	1,100	898	(1.6)	3.7	2.0	1.0	1.2
16 Business	920	873	753	772	764	1.6	2.0	1.8	1.1	1.0
17 Technology	3,017	2,327	3,318	4,901	3,069	5.2	5.2	5.9	4.2	1.0
18 Philosophy	1,301	1,161	1,490	1,472	1,414	2.3	2.6	2.5	2.1	1.9
19 Philology	991	825	1,029	1,099	1,566	1.7	1.9	1.7	1.6	1.4
20 Law	1,463	1,072	1,117	1,435	1,287	2.5	2.1	2.3	2.0	1.7
21 Education	1,470	1,121	1,182	1,219	1,246	2.5	2.0	2.0	1.3	1.6
22 General Works	1,069	811	1,019	840	918	2.7	1.8	1.7	1.3	1.2
23 Domestic Arts	402	364	318	304	371	0.8	0.8	0.6	0.9	0.6
24 Music	308	221	342	442	465	0.5	0.7	0.9	0.9	1.2
TOTALS	57,562	44,632	60,050	70,487	76,282	99.8	100.2	100.2	100.0	99.9

marked change in the proportions which certain classes of work bore to the whole output. The subjects which lost ground relatively but which regained it entirely or in part after the return to normal conditions are

Fiction, Science, Geography and Travel, Biography, Literature, Fine Arts and Games

The subjects which gained ground during the War and lost it, entirely or in part, soon afterwards are

Religion, Sociology, Poetry and Drama, History, Medicine, Agriculture and Gardening, Business and (?) Military and Naval. It may be noted that two of these subject groups only—History and Agriculture and Gardening—show a greater production from 1916 to 1920 than from 1911 to 1915, though this was probably true also for books on Military and Naval topics. The Juvenile group stands apart from all others in that it gained ground during the War and also during the next five years. The remaining groups show no marked fluctuations in the War years, the percentages for most of them (Technology, Philosophy, Philology, Domestic Arts and

Music) remaining fairly uniform between 1911 and 1925, while those for Law, Education and General Works show a slow but fairly steady decline

In a general way, it may be said that writings intended primarily to amuse and those in general science suffered a temporary setback during the War, the decline in the numbers of such books published was more marked than the decline in the total output of books. Their loss was counterbalanced by a relative gain in writings more suited to the times—works on Religion and History were more in demand, and also those which could be classified as Poetry and Drama. It is rather surprising to find that an impetus was given to the last-named class. Fig. 3 shows that the proportion of new editions to all books published declined more markedly for the Poetry and Drama category than for any other group in the years 1916–20. Classical poetry was less called for then than in normal times, but there was a good market for new verse, much of which was, doubtless, of the War variety. It is remarkable that by 1921–25 the main outlines of the situation existing in 1911–15 had been restored, both as regards the total number of books published and as regards the proportions of this whole which were concerned with different interests. The disturbance of the order appears to have been of a transitory nature.

Relation of Subjects to Total Production

We now consider the proportions that books in different subjects (new books and new editions combined) bore to the total production in what may be called the post-War period—1921–35. Fig. 4 shows that development here was far more steady than for the preceding period (1911–20). The main tendencies are clearly marked and are of a simple nature. From 1921 to 1935—

(a) the proportions of books assigned to the Fiction, Juvenile and Biography groups show a marked increase,

(b) the Games, Philology and Domestic Arts groups retained their proportions, and

(c) all other groups show a clear tendency to decline relative to the total output of books on all subjects.

It is evident that the "pattern" of the system has changed in a very significant way in the post-War years. The increase in a very few kinds of book was so marked as to cause a decline, relative to the total output, in nearly all other kinds. We are, of course, discussing proportions. From 1931 to 1935 the total number of books published was 16,000 greater, in round numbers, than the total in 1921–25. The Fiction, Juvenile and Biography groups alone contributed 14,000 of this increase. In actual figures the other groups were maintaining a fairly steady level or showing slight tendencies to increase or decrease. The number of books in the Fiction class in 1931–35 was nearly twice as large as in 1921–25, and there were rises of over 30 per cent in the case of Juvenile books and

Biographies Nothing approaching this magnitude of change occurred in any other subject group. No subjects showed a clear decline in output from 1921 to 1935, and the only other ones showing a consistent increase are Sociology, Philology, Games and Domestic Arts. The steady growth in the volume of publications in the post-War years has not been due to any increase in books of a higher cultural nature, but almost entirely to a remarkable increase in fictional and juvenile books. It would scarcely have been anticipated that the actual numbers of books on Science and Education in 1911-15 would be appreciably higher than the corresponding numbers for any later period of five years. It is a fact which gives the educationist food for thought and offers him little consolation. At the same time, new and powerful educative forces are emerging, among them the film and the wireless, the extent and nature of their effect upon the nation's reading can be studied to some extent, it is submitted, by investigation into the statistics of book production.

RONALD HITCHCOCK

CHAPTER THREE

THE TEACHING OF LATIN IN ENGLAND A CRITICAL AND HISTORICAL SURVEY

Introduction

THE thesis here summarised represents an attempt to give a connected account of the way in which Latin was taught and studied in England up to the time of the Renaissance. It deals with the original methods and aims of the Roman schools and their continuance by the Christian Church, the degradation of learning during the so-called Dark Ages, and the renaissance of the ninth, twelfth and fifteenth centuries, together with the intervening sloughs.

The account is based upon a presentation of the textbooks, together with brief descriptions of English scholars and writers. To deal at all adequately with such a history would be far beyond the compass of a single survey, hence the choice of textbooks has been confined mainly to the grammars, as being most illustrative of the changes in the study of Latin and of the material available. The textbooks mentioned in the thesis are those which either are known to have been used in England or may reasonably be presumed to have been so used, but some consideration has been given to Englishmen whose work was mainly studied abroad and to such subjects as Goliardic poetry, which must have had considerable influence upon Latin studies in this country and which evidence local scholarship.

Considerable portions of the textbooks are translated, in order that comparison may be made of the various methods of instruction, except in the case of such verse works as would lose much of their appeal in translation, and the Latin versions are given in an appendix.

Teaching of Latin to the End of the Fifteenth Century

The four parts of the thesis correspond with the four main divisions into which the teaching of Latin in England up to the end of the fifteenth century falls.

(1) *Period of the Ancient Grammarians*

The first part represents the period during which the authority of the ancient grammarians was absolute, viz from the Roman occupation to the time of Alfred. During this period, actual teaching passed from schools of the Roman type to the Christian Church, with a consequent struggle between Christian and pagan ideas. Schools were attached to the churches and a systematic course of instruction in the Latin language was instituted. The curriculum of the Imperial Schools was eventually restored in the Christian Schools, although the object of such education was now

not rhetoric, but to enable the student to understand the Scriptures, or at least to be able to read them, and the scholar to study the works of Christian authors. A knowledge of Latin was essential, since everything that was available for study was written in that language, and it provided the only means of communication between scholars of divers countries. The classic authority on the higher education of Rome during the early Empire was Quintilian, whose *De Institutione Oratoria*, a treatise, in twelve books, on the training of an orator, is dealt with at some length. The mediæval school curriculum may fairly be held to have been builded upon Quintilian as to theory, upon Donatus and Priscian as to grammar, and upon Martianus Capella and the writer called Dionysius Cato as to introductory textbooks. Hence, in addition to a brief description of the monks whose labours were mainly instrumental in the preservation and dissemination of the ancient learning, the remainder of this part of the thesis is concerned with a description and translation of Capella's *The Marriage of Philology and Mercury*, of Cato's *Distichs*, of Donatus' *Ars Minor*, and of Priscian's *De Accentibus* and *Ars Grammatica*.

(11) *From Alfred to the Founding of the Universities*

The second part deals with the period from the time of Alfred to the founding of the Universities, a period which witnesses the need for translation from Latin into the vernacular, and which evolves a new technique in teaching. At the end of the period, the twelfth-century renaissance sees a struggle between the new learning and the attempts at a classical revival, and establishes the popularity of verse-making. There is also evident a tendency towards a freeing of education from absolute Church control. The altered aims of school teaching, under the control of the Church, had turned the study of grammar, in its original wide connotation, into a narrow linguistic one, with a preference for compendia in place of the original authors, and for ecclesiastical, rather than classical, Latin.

At the beginning of this period, the important centres of teaching were the Bishops' Schools, and these gradually tended to outshine monastic schools as centres of learning. Charlemagne's Palace School was instrumental in furnishing a curriculum of classical education for lay pupils, and his example was copied by Alfred, whose influence upon education in England is significant of the decay of classical learning there. Alfred planned a system which was intended to be national and to raise the standard of education. Probably his greatest literary achievement was the prominence which he gave to the vernacular tongue, and the capacity for original development with which he endowed it. Hitherto, learning had been almost entirely confined to the classical tongues. Alfred's translations, though influencing English prose with Latin style, helped English to become a literary language, even though it was not until nearly a century after Alfred's death that Ælfric achieved more definite results. Latin survived as the official language of

learning, but the vernacular tongue henceforth remained as the popular medium of expression.

The religious revival of the tenth century was associated with the "three torches" of the Church. Dunstan, Æthelwold and Oswald. Æthelwold expounded Donatus and Priscian to his pupils at Winchester, most important of whom was Ælfric of Eynsham. Since many of the postulants and novices were quite ignorant of Latin, King Edgar empowered Æthelwold to translate the Benedictine Rule into English, but the latter went much further than this and apparently used to construe to his pupils, for Ælfric says that he learned this method in Æthelwold's school.

Ælfric, the greatest English prose writer before the Conquest, prepared as school books a Latin Grammar, to which was appended a Glossary of some three thousand words, and a Colloquium, in which Latin was taught in a conversational manner. He is a landmark in the history of Latin teaching, for with him we are brought face to face with construe. Throughout his Grammar, the Latin word, phrase or sentence is followed directly by the English equivalent. The purpose and character of the work are explained in the Latin preface, which begins "I have striven to translate these extracts from the lesser or the greater Priscian into your language for you young boys, so that, when you have thoroughly read Donatus' Eight Parts, you can mould your plant minds in each tongue, viz. Latin and English, until you achieve more mature studies." The whole of the Grammar, selections from the Glossary, and a translation of the Colloquy, are given in the thesis.

During the first half of the eleventh century, the defective organisation of the English Church and the internecine quarrels of its leaders led to a great laxity of moral discipline and an almost complete disregard of learning. Whatever may have been the effects of the Norman Conquest upon the development of our native tongue or the course of our political history, there can be no doubt that it exercised a salutary and sorely needed effect upon the English Church in general and upon education in particular. The infusion of a new and cultured energy resulted in the establishment of law and method, the founding of Orders led to a fresh growth of schools, and the development of Chivalry necessitated the promotion of a novel system of education. Latin revived as the language of the Church and of learning, and, for a time, served as the common tongue of the two peoples. Bishop Herbert de Losinga is an example of the teaching divine whose influence permeated English education at this time, and extracts from his letters are quoted.

The twelfth-century renaissance was in general confined to the great French schools. At its best, as represented in England by John of Salisbury, it was a real reversion to the old type of Roman instruction, and involved a wide reading of the authors, a reasoned and careful study of grammar and rhetoric and a sane application of logic. It failed to survive, not merely because of a renewal of the old quarrel between Christian morality and the pagan authors,

but also because the increasing and overwhelming importance of the authority of Aristotle, combined with the professional and utilitarian spirit which possessed most of the new students, left no room for its cultivation. The spirit which animated the Crusaders was a restless, eager, commercial one, which could hardly be satisfied with purely humanistic pursuits, while most of the ablest minds of the century were stimulated by the rules for reasoning revealed by the "New Aristotle." It was no mere hair-splitting which fascinated them, but an eager, intellectual and deeply earnest attempt to solve the old problem, the riddle of the universe and the purpose of life, and the stimulus of the new logic swept them off their feet and drove into the background all considerations for the ancient curriculum.

The school books of this period included Avianus and Theodulus, while dictionaries were being issued. Translations of the *Eclogues* of Theodulus and of one of the *Fables* of Avianus are given in the thesis. The remainder of this part contains brief descriptions of the most prominent English writers of the period, together with a sketch of the development of mediæval verse-forms and the handling of rhythm and rhyme.

(iii) *From the Founding of the Universities to the Renaissance*

The third part deals with the period from the founding of the Universities to the Renaissance and, with regard to grammatical instruction, is dominated by the new verse Grammars.

The creation of Universities was the greatest contribution of the Middle Ages to learning, and it marks a very definite step in the progress of education. From the time of the decay of the Roman Schools of Grammar and of Rhetoric, the Christian Church had been almost the sole repository of the ancient learning, and under its charge had been the guidance of education. During the course of the twelfth century, however, there seemed almost suddenly to develop a keen intellectual restlessness which animated men of all classes. A new student type emerged, eager to pursue knowledge wherever it was to be obtained, and out of the gatherings of these students arose the Universities. The remarkable revival of learning which this century witnessed enabled students to use an international language, and the result was an international culture. The scholar could wander at will, like John of Salisbury, from one school to another, and this freedom was certainly not lessened when Universities became established. Knowledge was now no longer confined to the Seven Liberal Arts, or rather to the bare bones of these which had given somewhat meagre satisfaction to the intellectual appetite of the earlier Middle Ages. From Italy and Sicily, and particularly from Spain, a mass of new knowledge had penetrated into Western Europe. Aristotle, Ptolemy, Euclid, Galen, the new arithmetic and the texts of the Roman law had been rescued from their obscurity, so that a desire for learning was now no longer confined mainly to the clerical orders.

The overwhelming importance attached to logic and philosophy

in the Universities led to a neglect of the ancient classics, with the result that a tremendous decline in literary culture set in during the early part of the thirteenth century and continued until the time of the Renaissance. The process of mastering the mass of knowledge involved in Aristotle left no room for the humanities. To Dante, Aristotle had become 'the Master of them that know,' and, a century later, Chaucer showed that a study of logic was synonymous with attendance at a University. A knowledge of Latin was still essential, since the lectures were delivered in that language, text-books were written in it, and it formed the medium of communication between students. Literary form, however, came to be despised and the study of the classics dwelt to a more concentration upon examples and extracts illustrating the rules of grammar. The course of instruction in the Grammar Schools remained unaltered, save only, in method, but the Universities tended to take the place of the Cathedral Schools and students as young as 14 were attracted to them. School textbooks changed in character, one of the most popular being the *Philogia* of Maximianus, a somewhat licentious publication whose influence was strenuously resisted by Alexander de Villa-Dei. The craze of versification led to the compilation of verse Grammars, of which the most widely read were the *Doctrinale* of Alexander de Villa-Dei and the *Grammatica* of Bernhard of Brehme.

Some of the teachers realised only too well the dangers which lay ahead of this type of education. Johannes de Garlandia, for example, suggested that a law should be passed at Paris to re-establish the ancient classics. Holding the *Doctrinale* and the *Grammatica* in contempt, he strove at great length against the wave of 'new' learning which was swamping the real study of Latin. The later humanists, including Erasmus, condemned him utterly, and it is true that his writings are in wretched style and almost unrecognisable without the glosses. What his critics failed to realise, however, was, that he was striving to rescue the ancient Latin and his from extinction, and that, had he and his kind been successful, the task of the humanists would have been lightened immeasurably, if indeed it would have been needed at all. He was above all a schoolmaster who tried to enable his students to acquire a knowledge of Latin vastly superior to the jargon which passed for that language in the Universities. Since a knowledge of the Latin language formed a basis on which all school work was founded, it was necessary for students to learn the elements of Latin grammar and to acquire a vocabulary, hence conversation in Latin was strictly enjoined. The result, however, was disastrous to a correct appreciation of classical Latin. The ancient authors and grammarians were no longer useful for the learning of the constructions and vocabulary which had by now become generally used. De Garlandia's main fault was that he did not go far enough in his attempts to revive a study of classical Latin but himself repeated, in his dictionaries, etc., many of the current barbarisms. The vain struggle of the

purists, from John of Salisbury to Henri d'Andeli, against the mistreatment and neglect of a noble language reveals a twofold danger which has, perhaps, always been inherent in the study of Latin in this island. On the one hand, the influence of Quintilian and his like placed an undue stress upon the detailed study of the ancient authors, and thus hampered any attempts at original development, on the other, an attempt to make a classical tongue serve as the medium of modern communication must lead inevitably to a degradation of that tongue, a point which has not, perhaps, been sufficiently considered by present-day advocates of a "direct method" in the teaching of Latin.

The remainder of this part contains accounts of the most prominent English writers of the period, a consideration of Goliardic poetry, and translations of most of the *Doctrinale* and the *Graecismus*.

(iv) *The Last Quarter of the Fifteenth Century*

The fourth part is concerned with the last quarter of the fifteenth century and the early effects in England of the Renaissance.

The problem which every teacher of Latin in England has had to face, and will always have to face, is that Latin literature never represented a vernacular tongue and has never satisfactorily replaced one. The Church maintained the study of Latin mainly because it was the language used by Christian Fathers. In the same way, laymen studied it because it was the vehicle whereby Aristotle and the rest of the Greek philosophic and scientific thought were conveyed, or because in it were stored the secrets of law and medicine. The troughs into which Latin periodically sank represent the periods during which it was most widely used as a substitute for a vernacular, while the surges of the ninth, twelfth and fifteenth centuries mark temporary returns to classical form, during which periods the ancient literature was studied and copied as an artificial language. Had holy writ or patristic thought been preserved in Greek, it is extremely doubtful whether Latin would have survived at all in this country even among the Romance languages, the vernaculars ousted the ancient tongue.

Most of the material quoted in the first three parts of this thesis represents the work of outstanding scholars during the periods of revival, behind them must have lain vast deserts of ignorance. If any class of people had the right to be styled "educated," at least before the end of the fifteenth century, surely the clergy had, and yet, perhaps the majority of the clergy up to that time were woefully ignorant, although opportunities for the acquirement of a knowledge of Latin had continually increased. The fourteenth century witnessed the lowest depths into which Latin sank in later mediæval England.

The fifteenth century saw a gradual revival from the period of stagnation and craze for versifying, overlaid with the oppressive zeal for logical explanation. Geoffrey the Grammarian (fl. 1440) seems to mark a definite turning-point. His *Promptorium Parvulorum*

Clericorum not only portrays the debased Latin of the previous century, but also revives the work of De Garlandia and carries it on until the approach of the Renaissance

In respect of Latin, the Renaissance in England awakened a desire for a return to simple grammatical instruction and for a restoration of the proper functions of grammar. It must be remembered that, even to Priscian, the classical authors were "the ancients," while, to the eager students of logic, such authors and such a grammatical treatise were intolerable. Ælfric, the first-known English grammarian to translate Priscian and to adapt his work to suit English students, was the forerunner of the Magdalen College School group at the Renaissance, and hence of the "authorised" Latin Grammar. The "new" Grammars of the thirteenth century must have been extremely difficult to apply, even if easy to memorise, while the craze for verification afforded still ample opportunities for marginal notes and glosses and for the almost interminable explanations of teachers. When, in the fifteenth century, there became evident a need for reformation in the teaching of Latin, the first essential was a more reasonable and intelligible manual of instruction. This did not, of course, come into being immediately or without opposition, nor is it certain that it was a native development. Just as some of the English grammarians, such as Anwykyll, based their works on those of the Italian grammarians, so also the realisation of the need for a simplification of the manuals may have been brought about by the success of the methods employed on the Continent, including such catechisms of grammar as the "*Es tu scolais?*" These contained the germs of the reforms in Latin teaching: a revolt from the complicated verse and logical forms, and a mixture of what may be described as a revised Donatus with explanations in the vernacular.

Conclusion

Although the intellectual unrest which spread north and west from Italy influenced the Continent before it affected England, yet there is evidence that English grammarians, from at least the time of Geoffrey the Grammarian, were seeking new methods of teaching Latin. Sir Gordon Duff's Catalogue of books printed in England or for the English market during the fifteenth century contains extracts which show this development clearly. This reform in the teaching of Latin grammar is connected with the teachers associated with William of Waynflete's foundation, Magdalen College School. Whether it is to be attributed to John Anwykyll, to his successor, John Stanbridge, or to some former unknown grammarian, is not certain, but, from about 1481 onwards, the text of the Grammars, either verse or prose, is split up into short sections, and each section is explained, sometimes in Latin, but more frequently in English. There is no doubt, then, that the foundations of modern Latin Grammars were laid during the last quarter of the fifteenth century. Moreover, these "new" grammarians reverted to the pre-dialectic

style in attempting to give their pupils some aid to conversational Latin, whereas the Grammars of mediæval origin had neglected both classical quotations and vocabulary. Anwykyl, Stanbridge, Whittinton and others compiled *Vulgaria*, consisting of useful phrases collected from Terence and other means of enlarging a vocabulary, and Ascham praised especially those of Whittinton and Horman.

Although there was an undoubted improvement in the teaching of Latin at the end of the fifteenth century, it is evident from the strictures of Erasmus and other humanists that teaching methods still left much to be desired, while the condition of studies at the Universities at this time suggests that humanism had not penetrated far within their portals. The reign of logic was unconscionably long a-dying, but its death-knell had sounded, and the close of the century saw the dawn of a new era in education and, in particular, in the teaching of Latin grammar and composition.

Such arbitrary divisions as the above are, perhaps, never very satisfactory, but the four periods named, viz. those of the Ancient Grammarians, of Translation, of the New Grammarians, and of Restoration, represent distinct phases in the history of the subject and have well-defined characteristics. It must be realised, however, that these labels are not intended to do more than to indicate the most outstanding, but not necessarily exclusive, features of each period. For instance, the authority of the Old Grammarians does not lose its hold until the intrusion of the verse Grammars and does not entirely cease throughout the whole history, the second period is not entirely dominated by translation into English, while such translation is also a marked feature in grammatical instruction during the fourth period.

C. N. WORDEN

CHAPTER FOUR

THE HISTORY AND DEVELOPMENT OF BOYS' PREPARATORY SCHOOLS IN ENGLAND

(See also YEAR BOOK OF EDUCATION, 1922, pages 216-17)

Position in the Eighteenth Century

"If the standard of the best of these (Preparatory Schools) were taken as typical, the system would be quite admirable. If they were characterised by their worst examples it would be hard to condemn the system too strongly." Thus wrote Sir Cyril Norwood in *The English Tradition of Education* (published 1929). He recognises that a system of Preparatory Schools does exist to-day, but because anybody who has the inclination and means can set up a Preparatory School, the system is perhaps more heterogeneous than any other part of English education.

The system has a comparatively recent origin. By 1900 it had grown sufficiently large and influential for the Office of Special Inquiries and Reports to issue a Report entitled *Preparatory Schools for Boys: Their Place in English Secondary Education*. In introducing this Report, Mr C. C. Cottrell, then Secretary of the Preparatory Schools' Association, said, 'The Preparatory Schools of England, if we understand by that term schools which prepare only for the Public Schools and the Royal Navy, and do not keep boys beyond the age of fourteen, are of quite recent origin. I have been able to trace the existence of such a school back to the year in which her present Gracious Majesty ascended the throne but to no earlier date, though I have made a careful search.' Evidence now suggests, however, that Preparatory Schools did exist before 1837 and that the underlying idea of a Preparatory School i.e. an institution in which the sons of noble and landed parents receive their training between the ages of 7 and 14 was recognised by the Roman Catholics as early as the middle of the eighteenth century, if not before. With the passing of Penal Laws against Roman Catholics in the reign of Queen Elizabeth schools for the sons of persons in England who secretly adhered to Roman Catholicism were founded on the Continent, the best known being at St Omers and Douai. Thither English boys were sent to spend the entire period of their school days, often not seeing their parents during that period. It was natural, then, that in the eighteenth century, when the laws were not so strictly enforced, arrangements should be made for the younger boys to receive their early training in this country. For this purpose schools were founded at Ely and, near Winchester, (1692-1715), and at Standon Lordship, Hertfordshire (1719). In Dr Milnes's *Life of Chatham* we read

" Within ten years after the dissolution of the celebrated school at Twyford another was established on the same plan, being chiefly calculated for the sons of the nobility and gentry in their tender age at Standon Lordship, in Hertfordshire " More important still as evidence that the principle of Preparatory Schools existed is a paper recently discovered by the Rev R Butcher in the archives of St Edmund's College " At the Establishment Old Hall Green near Ware Hertfordshire for preparatory education for the English Colleges on the Continent—Liege, Douai, St Omers, Louvain, Bruges, etc, presided over by the Right Rev and Hon Bishop James Talbot in the year 1771 " This and other such evidence suggests that the Roman Catholics early realised, as do Preparatory School authorities to-day, that a young boy ought not to be sent straight to a large school to mix freely with boys much older than himself

But this realisation was not general in the eighteenth century During that century and the first half of the nineteenth we learn from the biographies that boys as young as 6 were sent away to board in the great schools to-day recognised as " Public Schools " Only by enlightened individuals were the evils of such a practice realised

A school at Twyford appears to have been one of the earliest Protestant Preparatory Schools It is a coincidence that this school should have been founded at Twyford, for there is no connection between it and the earlier Roman Catholic school in the same place The Protestant school was founded by the vicar of the parish in 1809 Although the school received young boys, there is nothing to show that it was entirely a Preparatory School We do know, however, that some boys went from there to Winchester College In 1902, Mr C T Wickham, then headmaster of the school, made inquiries into this matter, and it seems that Twyford was a Preparatory School well before 1837 The Rev Godfrey Boles Lee, formerly Warden of Winchester College, was a pupil at Twyford from 1826 to 1830 He wrote " I left Twyford when between thirteen and fourteen I am sure there was no boy of anything like fifteen years old I was quite at the top of the school when I left " It seems, then, that the school was a Preparatory School by that time Incidentally, Thomas Hughes was a pupil at Twyford, and he alludes to it (in unflattering terms) in *Tom Brown's Schooldays*

Another early Preparatory School was Temple Grove, East Sheen The house, built in 1610, became later the residence of Sir John Temple, and possibly of his brother, to whom Jonathan Swift was Secretary The estate was sold for a school in 1810, and in 1817 the Rev Dr J H Pinckney took over the headmastership A former Dean of Exeter, the Right Rev Alfred Earle, who was a pupil under Pinckney, wrote " It was a Preparatory School principally for Eton, and was, I should say, a good Preparatory School for Eton, where in my early days—barring the treacle and blumstone and the pilgrimages to Church—we found the same absolute neglect of body, mind, and soul "

The Grange, Stevenage, came into being as a Preparatory School in 1837, when the Rev J. O. Seager, Master of Stevenage Grammar School, bought an inn with room to house boarders. This inn was a well-known stopping-place in Elizabethan days on routes to and from the north, and is probably the one mentioned in Pepys' Diary. Mr Seager held the living of Great Wymondley, and on Sunday mornings he was to be seen riding his horse to church and driving his pupils before him with the aid of a whip. The reform of schools had not advanced greatly by that time!

Progress during the Nineteenth Century

But it was largely out of the reform of the Public Schools and then increasing vogue amongst the upper classes during the nineteenth century that the Preparatory Schools grew. The question of Dr Thomas Arnold's influence on education has become controversial but about his influence upon Preparatory Schools there can be no doubt. In a letter to Mr Justice Coleridge, he wrote: "I have indeed always advised people not to send their boys as boarders under twelve, but have never opposed the same advice to foundations living under their parents' roof." He recognised the evils of a system in which small boys mixed freely in boarding schools with much older boys. But he did more than discourage the sending of boys direct, as it were, from the nursery to a Public School. He gave his whole-hearted support to a school (Windlesham House) founded first in the Isle of Wight in 1817 subsequently moved to Brighton, and more recently to London. The founder, Lieutenant Malden, retired from the Royal Navy to start this school—the one referred to by Mr C. C. Councill in his Introduction to the Report on Preparatory Schools of 1920. As has been shown this school was not the first Preparatory School. But it was probably the first founded to take only small boys and to prepare them specifically for the Public Schools and the Royal Navy. From 1837 onwards other similar schools came into being, until, by 1900, there were listed some 280 such schools, and their place in the English educational system was recognised. "The schools in question (Preparatory Schools) are an interesting and important part of the system of national education. In their history, organisation, educational aims and courses of study, they exhibit many characteristic features not found in the corresponding parts of secondary education in other countries. They provide for a majority of the boys, intended for the Public Schools, the first three or four years of secondary education. During the last two decades they have made notable advances in general efficiency, and it is doubtful whether any other part of our national education has been distinguished by a more rapid and comprehensive improvement. In many respects they may be said to be the best schools of their kind in the world." Thus wrote Sir Michael Sadler, Director of the Office of Special Inquiries and Reports, in 1909.

These schools did valuable work, but they were separate entities,

their administration often handed down from father to son, as in the case of Windlesham House, whose present headmaster is a great-grandson of the founder. Each school was an institution apart, depending for its relationship with other schools and educational bodies upon the personality of its headmaster. There was no cohesion between the various schools. There was competition rather than co-operation, and there was but little link between themselves and the Public Schools to which their pupils went. It is significant that the first move towards some semblance of an organised system came from the Public Schools, when, in 1890, the then headmaster of Harrow, speaking at the Headmasters' Conference, said that it was desirable to make the relation between Preparatory and Public Schools somewhat closer and more systematic. In 1892 the Preparatory Schools' Association was founded, being incorporated by Royal Charter in 1923. Since its foundation this Association has done much in the pooling of educational experience, the discussion of special problems, the safeguarding of common interests, and the assistance of individual members.

Reasons for Increase of Preparatory Schools

The great increase in the number of Preparatory Schools during the second half of the nineteenth century was due almost entirely to the increasing popularity of the Public Schools. In the middle of the century the cleverest boys were going to Eton or Winchester, attracted by the scholarships which those schools were able to offer from their large endowments. But other schools were beginning to gain a national reputation, owing largely to the outstanding personality of their headmasters. In the early years of the century such schools as Rugby and Shrewsbury had drawn their pupils almost entirely from their immediate neighbourhood. With better means of transport pupils came from all over the country. This meant that old-established schools, unable to claim anything particularly striking about themselves, had to fight to exist at all. Each Public School wished to attract to itself the finest brains, but realised that the parents of such boys were not able to afford the high fees demanded. The Public Schools therefore began to use every available giant for setting up Entrance Scholarships, while the increasing power of the Press gave the required amount of publicity. Preparatory Schools were founded whose one object was the obtaining of these scholarships. Parents wished their sons to gain scholarships, the Preparatory Schools claimed to provide the necessary training for their attainment. They vied with each other in publishing their results in the newspapers, for they realised that where schools were concerned it was largely a question of "To him that hath shall more be given."

Influence of Scholarships and Entrance Examination

Since scholarships were awarded almost entirely for classics or mathematics, those subjects formed the basis of the Preparatory

School curriculum Other subjects were squeezed in when, and if, time allowed But advocates of science, modern languages, and other "modern" subjects were heard during the whole of the last half of the century Schools such as Clifton (1862), Malvern (1862), and Radley (1847) were founded, bound by no classical traditions They taught classics, but not to the exclusion of most other subjects It was largely due to such schools that the tyranny of the classical tradition in the older Public Schools was broken And this "modern" tendency naturally influenced the Preparatory Schools The new schools were also offering scholarships, and the obtaining of them did not depend so entirely upon brilliance in classics The result was a dispute over curriculum amongst Preparatory School authorities In 1895 the first number of *The Preparatory Schools' Review*—the journal published termly by the Preparatory Schools' Association—contained articles on this controversial subject The discussion is still continuing to-day

All boys who wished to enter a Public School had to pass an entrance examination, which naturally followed the lines of the scholarship examination, and tended to become peculiar to each Public School This caused difficulties A Preparatory School might be coaching half a dozen boys for Public School A, whose entrance examination stressed Latin, while in the same form were another half-dozen boys being coached for Public School B, which stressed classics in general Other boys in the same form might be preparing for Public Schools C, D or E, each having its own peculiarities In 1902, therefore, after the Preparatory Schools had urged the matter for some time, the Headmasters' Conference proposed that some form of Common Entrance Examination should be established, and that a Committee should be established to see that the matter was fully dealt with The scheme was approved by a joint conference of Public and Preparatory School masters in 1903, and thirty schools agreed to adopt the scheme experimentally To-day over one hundred schools make use of the examination

Effects of Common Entrance Examination

The scheme is workable and useful, but it has given rise to an evil tendency Preparatory Schools have come to regard the attainment of an Entrance Scholarship by the clever, or the passing of the Common Entrance Examination by the not-so-clever boys as the sole end of their education Their outlook has become narrow "The education given in the Preparatory School is completely dominated by the scholarship and entrance examinations at the Great Public Schools The lines on which these examinations are conducted are the lines on which the Preparatory School master must educate his pupils His business is, not to give his pupils the education that is best suited to their capacities and their years, but to prepare them for admission to a more advanced school The more scholarships he can win at Eton, Harrow, Winchester, Rugby, and

the test, the higher will be the repute of his school, and as the competition between school and school is fierce and unintermittent, he cannot afford to throw away a single chance." Thus wrote Edmond Holmes in his *What Is and What Might Be* (1911). The schools tended to become merely "cramming" institutions, and this affected the mentality of the boys who underwent the training. As Sir Cyril Norwood wrote, "They had proceeded to higher work before they had understood the elements they had tried, and even been encouraged, to substitute memory for reason and observation. They were in a thorough muddle, and work was unintelligible to them. They did not know why they were doing it, nor what they were attempting to achieve. They did know that it was something which one day they would have 'to pass exams in'." The confused state of the boys' minds, their indifference to knowledge, arise, in fact, at any rate, because they have been taught to pass a Common Entrance Examination at all costs."

Growth of Preparatory Schools administered by Public Schools

A connection—in some ways an undesirable one—is seen between private Preparatory Schools and the Public Schools. But there is another type of Preparatory School which shows a closer connection, since it is administered by the Public School itself, though its buildings are separate from the larger school. In such a school the evils of the Scholarship and Entrance Examinations are not seen. Again the Roman Catholics appear to have been the first to realise the value of such schools. In 1815, the youngest boys of Stonyhurst were installed at Hodder, a building situated a mile from the main buildings. It seems probable, however, that this department was not organised as a true Preparatory School until 1855. The next example is seen at Clifton College. The College was founded in 1862, and before the close of that year a plan for keeping younger boys separate from the older ones was being considered. In 1863 a small Private Preparatory School was incorporated with the College. Further reorganisation was made in 1874, when this former Preparatory School was made the Junior School, and another school for very young boys was opened as a Preparatory School. From that date Clifton College has consisted of three departments, each separate from the other, yet co-ordinated into one whole by common traditions and by the heads of Subject Departments, who are responsible for work in their particular subject throughout the school. Dulwich College established its own Preparatory School in 1885, and this to-day ranks with Colet Court—the Preparatory School for St Paul's—as the largest Preparatory School, containing 450 boys.

To-day an increasing number of Public Schools are establishing their own Preparatory Schools. A boy in such a school has no shadow of an external examination hanging over him. He takes

examinations but they are natural. They are set and marked by masters who know the boys concerned and, presuming a fair standard of intelligence and ability, the boy takes these examinations in his stride. In this way an educational 'adder' is provided from the age of 7 to the age when a boy enters a University or takes his place in commerce. The staff of such schools tends to be better qualified than that of a private Preparatory School. Even when few endowments exist, the salaries are in accordance with the Birmingham Scale for secondary schools and service is pensionable. Such conditions attract men from the Universities who, unless they possess private means, would not think of joining the staff of a private school: men who not only are graduates but who have had training in actual teaching in a fourth year at the University when they have read for a Teacher's Diploma.

Influence of Private Preparatory Schools

Educational authorities have realised that a certain type of training is necessary for boys aged 7 to 14. Such training can be obtained in the elementary schools of local educational authorities, and such schools are worthy of high praise for the training they give. But no one could say that they supply the training given in a Preparatory School. Despite the democratic trend in England to-day, social distinctions still exist and the 'upper classes' desire a type of training that elementary schools cannot give. The Public Schools have realised this, and for that reason have come to set up their own Preparatory Schools. So great are the advantages which these schools have over private schools that they tend to imitate the older type of private Preparatory School. Perhaps the speaker was thinking of this when, in re-opening Wundleshorpe House School on a new site in 1935 he said of private Preparatory Schools, 'But there are difficulties, and I think that they are going to have greater difficulties in the future chiefly because there are too many of them and the birth-rate is declining which means that there will not be enough boys to fill them'.

Development of Official Recognition

The Preparatory Schools may be said to have been first given official recognition as a part of the English educational system with the issue of the Report upon them in 1905. A further stage in this recognition was reached in 1914 when the Board of Education ordered free inspection to a certain number of Preparatory Schools each year. This offer was not suddenly made and is seldomly accepted. It was the outcome of several years of doubt and discussion. From the free inspection which was granted to certain types of secondary schools from 1904 onwards the Preparatory Schools were dropped since the word 'secondary' implied a progressive course of instruction up to and beyond the age of 16. Preparatory School masters too, were not sure that they wanted inspection. The

Inspectors were regarded as ogres, interference in any form was viewed with suspicion. Lionel Helbert, headmaster and founder of West Downs Preparatory School, writing to his friend, Sir Robert Morant, said "I *cannot* make up my mind about inspection. I find it so hard to persuade myself that we are going to get any real good out of it. I don't mind inspection in the least, but my staff mind it very much, on the grounds that they may be deprived of bread and butter, owing to the reports of inexperienced or unsympathetic or narrow-minded inspectors. In public I stand for it—but in private I have many searchings of heart." This view was shared by many other Preparatory School headmasters. The Headmasters' Conference, however, was most anxious that the Preparatory Schools should accept inspection, and many discussions took place between the two types of school. Finally, in 1914, the Board of Education obtained permission from the Treasury to inspect free of charge not more than twenty Preparatory Schools per year. During the War years this development took little effect, but since then the names of many Preparatory Schools have appeared in "List 60" ("Secondary and Preparatory Schools recognised by the Board as Efficient"). The Preparatory Schools Association from the first urged its members to apply for inspection, and in 1934 an alteration was made in the form of membership, whereby a would-be member had to state that he had already applied to the Board for inspection.

Changes in the Curriculum

Perhaps one of the most interesting aspects of Preparatory School education to-day is the out-of-school activity. Whereas, in former years, the curriculum in these schools was regarded as the be-all and end-all of school life, to-day it is merely a part of that life. Time-table subjects are tending to become linked more and more to pursuits and pastimes out of school. In this connection the wireless and film projector have helped greatly. During the past three years especially, Preparatory School authorities have become conscious of their responsibilities. They have met together and discussed how the scope of their work may be broadened and how the curriculum may be made less bookish. They have realised that there should be no heavily defined dividing-line between work and play. As the headmaster of Cheltenham Junior School stated in 1935, the boy must be "primarily a maker and a doer. He would draw pictures and colour them, mould clay and plaster, make essays in wood-work, create gardens with lily ponds and rockeries, play musical instruments, write plays, make scenery, act, learn about trees and wild flowers, birds and animals, study at first hand the history and geography of his locality, undertake arduous expeditions and explorations, perfect his bodily strength and take a pride in difficult physical achievements, run, jump, play games, and finally talk and think and write about all these activities."

Schools have gone out of their way to try experiments, and herein

lies one of the advantages of a private Preparatory School it is not subject to any local education authority, in many cases there is not even a Board of Governors. The headmaster is his own master. He is free to experiment. Among Preparatory School headmasters there have been and are men of outstanding personality who have had the courage to adopt new schemes, and the ability to understand boys. Schemes of self-government have been tried, giving to the boy an insight into the workings of national and civic life. Cultural interests in drama, art and literature have been extended, for the boy of under 14 is not too young to appreciate such things. No longer does a boy waste his time to his heart's content in out-of-school hours, while he sits in a constant state of boredom in school time. The President of the Preparatory Schools Association, in his Presidential Address in 1902, said, "Wearied with the effort of trying to strike an harmonious chord on the theme of examinations, which ever seems to evoke discord, I soothe myself with contemplating an ideal state of education, when the efficiency of our schools shall be tested, not by regarding the results in the examination room, but by careful observation of the order of study, the appliances and methods of teaching, the calibre and tone of the teachers, the love of learning, the discipline and character of the scholars." That dream is being realised to-day.

FRANK C. PRITCHARD

CHAPTER FIVE

STATE INTERVENTION IN EDUCATION IN ENGLAND UNDER THE EARLY STUARTS

(a) The Educational System

EDUCATION in England in the early seventeenth century was provided by the universities of Oxford and Cambridge, by schools of various types, including grammar schools, reading schools, writing schools, cathedral schools and schools conducted by the parish priest, and by private tutors. There was no dearth of schools—indeed, there were probably more grammar schools in proportion to the population than there are secondary schools to-day, and it seems probable that in most towns and large villages there must have been some man or woman who taught children their A B C and the rudiments of reading.

From earliest times education in England had been controlled by the Church, and in the seventeenth century that control was still maintained. No one was allowed to teach without a licence from the bishop, the bishop was responsible for the visitation of schools and colleges, and the parish priests were legally compelled to see that all within their parishes were sufficiently educated to take part intelligently in the services of the Church. Oxford and Cambridge had all the outward appearances of ecclesiastical institutions. They were, for the most part, staffed with clerics, the majority of college Fellows were in Holy Orders, and their chief function was that of seminaries for the education of the clergy of the established Church. From time to time during the Middle Ages they had received valuable privileges from the Pope, as head of the Church—privileges which exempted them from the control of the bishop of the diocese in which they were situated, but these were surrendered to the Crown when the authority of the Pope in England was set aside by the Acts of the Reformation Parliament. They thus became subject to the national Church, to which all graduates had to swear allegiance.

When, therefore, by the Act of Supremacy of 1534, the King became the head of the Church in England, he became virtually head of the educational system also. So far as the first two Stuarts were concerned, education existed solely for the purpose of upholding the Church, in education *qua* education little interest was taken by the Government, but religion, on the other hand, was constantly occupying the attention of King and Parliament throughout the period. It is because the educational system was regarded as a means of producing a people conforming to the established religion that more attention was paid by the State to the universities than to the schools. The universities were the "Fountains of

Learning" supplying the claret officers of State and Church, and the clerics who had to be prepared to teach in accordance with the accepted ideas. It was essential, therefore, that the Government should have complete control over them, so that it might be able to guide the training of the clergy along the approved lines. It was to this end that intervention by the State in education was directed in the early seventeenth century.

(b) Attempts to enforce Religious Conformity

The religious settlement of Elizabeth had been an attempt at a compromise between the Catholic and the Puritan factions within the Church. James I, on his accession to the English throne in 1603, was quick to realise that he, too, must rely upon *via media*. The hostility of Spain and the plotting of the Jesuits made Catholicism impossible, James's experience in Scotland had convinced him that Presbyterianism was incompatible with belief in the Divine Right of Kings, so "No Bishop, no King" became the keynote of his policy of staunch support of the Anglican Established Church, both Papists and Puritans were to be made to conform or harned out of the land.

Early in the reign the question of the education of the children of Papists was being discussed in Parliament. As it was illegal for any person to teach without a licence from the Bishop, no provision could be made for their education in England and Parliament was alarmed at the prospect of English children being educated in the Catholic faith abroad. On February 8th, 1605, it was reported in the Commons that two thousand children under the age of 16 had, within the two preceding years, been sent abroad. A royal proclamation was issued in August 1606 prohibiting women and children from crossing the seas without a licence but it failed to check the flow, nor were the Acts of 1621 and 1628 altogether effective. However it was within the power of Parliament to prevent those unable to afford to go abroad from receiving a Catholic education, and it did so by taking away the licences of those schoolmasters suspected of "Popery". Such suspects were summoned from time to time to appear before the Commons, examined, and, unless able to produce "gentlemen of worth" willing to testify to the excellence of their work and the orthodoxy of their religious teaching, forbidden to carry on their profession.

It was, however, the growth of Puritanism in the universities which attracted most attention in the reign of James I. The Canons of 1604 insisted upon the wearing of the surplice in the colleges and halls, and attendance at Divine Service, and in April 1605 the King addressed a letter to the Chancellors of the universities commanding all students proceeding to degrees to take the Oath of Supremacy and another oath of conformity to the Church of England. These orders pressed heavily upon the Puritan undergraduates, who, by a royal letter of 1618, were required not only to take the oaths but "to observe all canons, ecclesiastical laws and

constitutions concerning divine service according to the Book of Common Prayer."

When, however, the Puritan faction came into power and Parliament assumed the control over the universities previously exercised by the King, the statute imposing subscription to the Oath of Supremacy and conformity was repealed (January 1641), and it was the turn of the orthodox Anglicans to be forced to conform. In November 1640, a special sub-committee of the House of Commons was set up to deal with "The Abuses of the Universities in Matters of Religion," and an order was despatched to the vice-chancellors commanding the removal of communion tables and prohibiting bowing at the name of Jesus. The wheel had turned full circle.

A blow more serious to academic freedom than the extortion of oaths and subscriptions was the censorship of sermons and books that was imposed as a means of securing religious conformity. The sermon played a far more important part in education in the seventeenth century than it does to-day, and the sermons preached in the University churches were nothing less than university lectures in divinity. It is impossible here to go into the details of the various suppressions that occurred within the period, but the case of Knight's Lenten sermon at Oxford in 1622 is worthy of citation. Knight's sermon was based upon the works of Pareus, and attracted the attention of the Privy Council because it purported to maintain that resistance to the civil ruler is justified in cases of extreme tyranny. The sermon was suppressed, and orders were sent to the universities to search the libraries for the writings of Pareus and to have them burnt. Perhaps, according to the standards of the time, the suppression of the sermon may be deemed justifiable, but it is difficult to excuse the burning of the works of Pareus or the works of Montague in 1626 and of Roger Mainwaring in 1628. Further restriction of thought within the universities was occasioned by the forbidding of disputations on the Thirty-Nine Articles by Charles I in 1629.

Laud, as Chancellor of Oxford, was particularly vigilant and active in suppressing Puritanism, and many sermons were burned and their preachers imprisoned. An attempt was made at resistance in 1631, but Laud had the full support of the King, and the university was compelled to submit.

The use of the Catechism, both in the schools and the universities, was insisted upon as a means of securing religious conformity. The 78th Canon of 1604 prescribed that "All Schoolmasters shall teach in English or Latine, as the children are able to beare, the larger or shorter Catechisme heretofore by publike authoritie set forth. And as often as any Sermon shall bee upon Holy and Festival dayes, within the Parish where they teach, they shall bring their Schollars to the Church where such Sermon shall bee made, and there see them quietly and soberly behave themselves, and shall examine them at times convenient after their returne, what they have borne away of such Sermons." The school visitor—usually

the bishop of the diocese, was instructed to see that these orders were carried out, and there are frequent examples of schoolmasters having their licences taken away for failing to comply. Parliament was also watchful, and one of the charges brought against a schoolmaster of Aye in Suffolk, who was summoned to appear before the Commons in May 1624 for "seducing his scholars to Popery," was that he "Catechiseth not." Nor must it be imagined that this is an isolated case—there are many during the period.

From 1640 to 1649 Parliament accepted responsibility for the control of national affairs, and the Puritans were now able to secure conformity to their belief within the universities and schools. Reference has already been made to the repeal of the statute demanding subscription to the Oath of Supremacy and conformity, and to the order abolishing High Church practices. Schoolmasters were now examined by Parliament for their Royalist sympathies and, towards the end of the period, for failing to accept the Solemn League and Covenant. Many were dismissed from their posts, which were filled by tried Parliamentarians.

At the beginning of December 1641 a Remonstrance was presented to Charles by Parliament at Hampton Court, in which the Commons stated, "we intend—to reform and purge the Fountains of Learning, the two Universities, that the Streams flowing from thence may be clear and pure, and an honour and Comfort to the whole land." The next important step was not taken until 1643, when, on January 22, was issued an "Ordinance for regulating the University of Cambridge." The Earl of Manchester was to appoint a committee with "power to call before them all Provosts, Masters and Fellows of Colleges, all students and members of the University and all schoolmasters," and, after due inquiry, "to eject such as he shall judge unfit from their places and to sequester their estates, means and revenues, and to place other fitting persons in their room."

Before considering the work of the Manchester Commission, it may be well to inquire into the whole question of visitations and to see what part was played by them in carrying out the policy of the State. By law and custom the universities were subject to two types of visitation. The university as a whole was visited by the King, or by a royal nominee or nominees, to whom were delegated the royal powers. The individual colleges were visited by an official visitor, usually a bishop, named in the foundation charter or statutes of the college. It would appear that it was not illegal for the King himself, or his delegates, to visit the colleges, but such visitations were unusual.

The function of the visitors was to survey the state of the university or college, to examine its statutes, to cross-examine the members to ensure that they were being carried out, and to institute any reforms which they, the visitors, might deem necessary.

With the normal visitations—those which were conducted in accordance with the practice stated above—we are not concerned, for, although the bishops made a point of insisting upon the

observance of the Canons, they were but carrying out their normal duties, and their action cannot be considered as intervention in the affairs of the university by the State. There were, however, attempts made during this period, notably those of Laud in 1635-6, and of Parliament in 1645-7, to impose upon the universities visitations by commissions which had no right to conduct them.

In 1635 Laud notified the University of Cambridge that he proposed to visit them. The university authorities were alarmed, and entered into correspondence with Holland, the Chancellor, and Manchester, the Lord High Steward, pleading for the defence of their privileges. Their claims may be summarised thus:

1 Their visitor is the King or a Commission under the Great Seal of England

2 They had been exempted from Papal control, and thus any authority claimed by the Archbishop to have passed to him at the Reformation, of exercising Papal authority in England, was of no account

3 Custom and tradition were all against a visitation by the Archbishop

4 These customs and traditions had from time to time been confirmed

5 By 25 Henry VIII, c. 19 and 20, the supremacy in ecclesiastical causes went to the King and had not been passed on to the bishops

6 Visitations since the Reformation had all been by Royal Commissions

Laud was not satisfied with these arguments, and suggested that both sides should submit their case to the King. Although the university realised that this would lead to but one result, they agreed, and the case was heard at Hampton Court on June 21st, 1636.

As the university expected, the decision was given in favour of the King's servant, Laud. It was further declared that the Archbishop of Canterbury, or his commissaries, might visit the universities, "as often as any great emergent cause should move him thereunto". When one considers the thoroughness of the reforms effected by Laud at Oxford, it is easy to understand why Cambridge was so anxious to avoid a visitation. And, in spite of the stir made by Laud's proposals, the pains taken to thresh the matter out, and the Archbishop's unequivocal victory, avoid it they did—for the visitation was never carried out.

Nevertheless, the doctrine of the "great emergent cause" was a convenient one for Parliament when they wished to despatch Manchester and his Commissioners to Cambridge. Their assumption was that the power of the King lapsed and that his prerogative therefore belonged to themselves, hence they were legally entitled to visit the universities. Manchester's Commission was disastrously thorough in its work. In all, about half of the Fellows of the various colleges of Cambridge collectively, and eleven out of sixteen heads of houses, were ejected. The total number of ejections exceeded one hundred and fifty. Oxford, which until

In 1646 was a Royalist stronghold, was dealt with similarly by a commission appointed in July 1646 and by the end of 1649, with three exceptions, every college in Oxford found itself under a new head and approximately four hundred ejections had been made. Such a purging is unparalleled in the history of the universities and offers an example of State intervention at its most effective.

(c) Attempts made to secure Office for Government Supporters

Reference has already been made to the attempts made by both King and Parliament to replace Puritan and High Church schoolmasters and university officers by those holding religious beliefs similar to those of the party in power, but these were not the only attempts made to secure that important educational posts should be held by supporters of the Government.

It must be remembered that the head of a college in the seventeenth century had far more power and influence than the holder of that office to-day. His power was wellnigh despotic. "According to his will he was a north or south cavalier," says Mulholland, "a Calvinist or an Arminian, a supporter of the Church and the royal prerogative or of the growing Puritan party, his predilections would be manifested with but little delay." He could thus be a very valuable ally of the Government. Frequent examples are to be found of the despatch of mandates by the first two Stuarts to the universities, commanding them to elect royal nominees to vacant headships. A case in point is that of the mandate sent to Gonville and Caius College, Cambridge, on January 30th, 1619, ordering them to elect Sir Thomas Wilson, Keeper of State Papers and a staunch supporter of the Crown, to the mastership. Charles I also made use of this means and Dr Richard Foxe owed his election to the mastership of Corpus College, Cambridge, to a royal mandate issued in 1632. When Parliament exercised the royal prerogative they too filled college headships with supporters of their party, a policy which culminated in the elections carried out by the Universities Commissions of 1646-9.

The College Fellowship also was used to reward Government supporters. The regulations governing the election of Fellows are to be found in the statutes of the individual colleges. Naturally, they vary from college to college, but there is usually a geographical condition to be fulfilled by the candidate, e.g. he must be a native of some specified county or district and for the higher offices a certain university status, usually that of doctor, is demanded. The statutes then lay down the procedure to be followed in the election. Breaches of the statutes were discoverable to the Vice-Chancellor, Chancellor and in the last resort to the King.

The attempts made by the early Stuarts to override the college statutes and to secure fellowships for their favourites were numerous and generally successful. James I found the grant of a college fellowship a cheap means of rewarding his courtiers, and both

Charles I and, later, Parliament sought to secure support within the universities by setting aside the statutes and having their upholders elected to fellowships. One case worthy of note is that of the election of Edward King (Milton's *Lycidas*) to a fellowship at Christ's College, Cambridge, on the receipt of a royal mandate. This is interesting because there is little doubt that, had the college been permitted to elect a Fellow of its own choice, not King, but John Milton would have been elected.

Occasionally attempts were made by the universities to ignore the mandates and to secure the election of officers of their own choice, or to prevent the imposition of an unwanted Fellow by acts of pre-nomination, or by maintaining that the fellowships were supernumerary and lapsed with the vacancy. On few occasions, however, were they successful. From time to time, as in 1621, 1624 and 1629, Parliament tried to legislate to prevent interference with the free election of college officers, but without success, and when they themselves secured control of affairs they were only too eager to make use of such interference themselves.

It must not be thought, however, that all Government intervention in the university elections was undertaken with the idea of securing office for placemen. Often the elections were conducted in a truly scandalous manner—bribery, corruption and intimidation were frequently resorted to, and but for the intervention of King or Parliament there would have been chaos within the universities. For example, in 1633 we find that there were two claimants to the mastership of St John's College, Cambridge—Robert Lane and Richard Holdsworth. Each had made full use of bribery and intimidation during the election, and neither would acknowledge the other's majority. Charles solved the problem by appointing a fresh master altogether—Dr William Beal. Similar action was taken by Parliament in July 1641 in the case of a disputed election at Emmanuel, while at Oxford the proctorial elections, which were frequently the occasion of violence, had in 1628 to be settled by the Crown and, later, made the subject for new regulations by Laud in his revision of the University Statutes.

Until England was in the throes of civil war the humble schoolmaster was undisturbed, provided that his religious views were orthodox. His political influence was slight, and his social standing too mean to warrant his being required to make way for a "Government man." After the outbreak of war, however, Parliament began to inquire into the political views of schoolmasters, and those of known Royalist sympathies were replaced by men loyal to the cause of Parliament. It is impossible here to enumerate such cases, but a perusal of the *Commons' Journal* and school histories will provide ample evidence of such action.

(d) Local Government and Education

- Disputes between Town and Gown figure largely in the histories of the universities, and some account of them must be taken in any

survey of the relations between the State and the educational institutions of the seventeenth century. The universities were civil corporations possessing legislative and judicial functions, and privileges of which they were justly proud. The Vice-Chancellor could commit to prison, pass by-laws and regulate trade within the university town. Many of the disputes which occurred during the early seventeenth century between the university and town authorities were the result of the attempt of one of those bodies to infringe the rights and privileges of the other. The pettiness of the causes of trouble is almost ludicrous. Great battles were fought to determine whether the Mayor should have precedence over the Vice-Chancellor in the Commission of the Peace, large sums of money were spent to secure a legal ruling as to whether the town or university authority should have the right of searching the streets at night for felons, and in 1629 the Privy Council was called upon to determine whether the price of candles should be fixed by the Vice-Chancellor of Cambridge or the town chandlers. However, the university lawyers were provided with cases, and were generally able to secure decisions in their favour.

There was an undoubted tendency, during the early seventeenth century, for local government bodies to gain control of schools previously governed by private bodies. Most schools founded by the Crown during this period were placed from the start under the supervision of local town corporations, and frequently schools founded by private individuals or philanthropic bodies were governed by the town council. Examples are to be found at Evesham and Bewdley, where the grammar schools founded by King James were entrusted to the mayor and borough council, and at Ipswich and Worcester, where the town corporation took over the governorship from the original founders.

The municipal authorities were not always content with the powers entrusted to them, and sought to gain fuller control over the schools than that to which they were legally entitled. At Oxford, for example, the town corporation sought, with some measure of success, to exercise the right of visitation of the school which belonged to the Warden and Fellows of New College, Oxford, and, in 1625, were successful in dismissing the negligent and cruel usher, James. At Wigan, also, the mayor and corporation gradually assumed control of the local grammar school, which had been entrusted to private individuals, at this time.

It is impossible here to give examples of the various types of intervention by local government bodies in the affairs of educational institutions which have been found during this period, each case provides some interesting features peculiar to itself, but in general such examples may be classified thus:

- 1 Attempts to usurp the authority of university colleges to appoint and dismiss schoolmasters

- 2 Attempts to encroach upon the ancient rights and privileges of the universities

3 Attempts to exercise the right of visitation of schools, legally belonging to other bodies

4 Attempts to assume the control of schools left in the hands of private individuals

(e) Conclusion

Although great interest was taken by the State in educational institutions, especially the universities and schools, during the first half of the seventeenth century, little thought was given by either King or Parliament to education in the full and widest sense of the term. It is true that certain members of Parliament did, in 1640, ask Samuel Harthib to invite Comenius to come to England to initiate a "structure of Truth, Human and Divine, of excellent use to all mankind, for the easiness and exquisiteness of attaining the true knowledge of things"—a plan which was ruined by the outbreak of war, but apart from instruction in religion, education was neglected by the State. The responsibility of providing education for the young was held to lie with the Church and the parent, and it was only the fact that uniformity in religion was held to be an essential for the existence of the State that it was called upon to intervene in education at all. It was found that unless some control was exercised over the schools and universities, religious uniformity was unattainable, and since the universities supplied the clergy and schoolmasters, they were subjected to a closer surveillance and a more direct control than the schools. Each change of policy in religion is reflected in the action of the Government in the affairs of the universities, action which, as we have seen, took little heed of the claims of academic freedom or the pursuit of truth. It is perhaps fortunate that the schools, institutions of little importance in the eyes of the Stuart politician, escaped such tender care and were allowed to develop along their own lines, produce their Brindsleys and form such a small part of a study of State intervention in education in England under the early Stuarts.

Most of the records of the colleges and universities of Oxford and Cambridge have been published and are easily accessible, but the early records of the schools of the period are hard to find. The Chetham Society and the Dugdale Society have done useful work in editing the Records of Blackburn Grammar School and of King Edward's School, Birmingham, and school histories by A. F. Leach and G. Griffith are particularly helpful, but much of the history of early seventeenth-century schools has to be gleaned from local histories and autobiographies.

The Journals of the Lords and Commons, Statutes of the Realm, Acts of the Privy Council, Calendar of State Papers Domestic, Visitation Articles, and Wilkins' "*Concilia Magnae Britanniae et Hiberniae*" have all yielded fruit.

LEONARD G. YOUNG

Education and the Survival of Democracy

(Continued from page 261)

more difficult still, to choose between two good principles or know where one must prevail over the other, it must be prepared for practical compromises, the highest common factor of opinion of the best of equal men.

It must overcome its most patent defect—inability to put into effect unpopular measures which are really necessary in the interests of the State. The French are supposed to be great realists, but they nearly always refuse unpalatable remedies until the situation is almost too bad for the remedy.

All of these powers are at a discount in an authoritarian State, and for the mass of the people it is not required of education to evoke them. Put negatively, an authoritarian State may exist under a controlled, dictated Press, it does not matter much if its people do not study what pros and cons are available, power of correct judgment is obviously not important if the body of facts is incomplete or mutilated, persuasion of colleagues is unnecessary, it need not exert itself to compromise, or to satisfy a majority, or to give a minority a sense of a fair hearing and decent dealing. Surely these two divergent situations must connote some real difference in educational essentials.

We have not yet resolved the quasi-biological problem of the degree of educability of the majority, dependent upon the heritability of acquired characteristics. If it be true that there is a definite low limit to the educability of the mass, then the autocratic State, being much less dependent upon this limit, will have ultimately a great advantage over a democratic State whose success depends on a high level that proves to be theoretical and not attainable. This limit we do not know until we have experimented much farther. The democratic fallacy of the nineteenth century was that popular decisions were rational, whereas they are mainly emotional—that of the twentieth century may be that even when rational they are of a quality high enough for a complex world. A profound commentator has said that the citizen must be educated to feel that he is not merely an object but a subject of politics.¹

But the successful democratic programme cannot stop at facts, policy and machinery. When a decision has been arrived at and a law passed, there must be enthusiasm to make it work, a devotion to national necessities, a subordination of rights or privileges to obligations and duties—all high moral qualities of citizenship. Otherwise, action will not be prompt, decisive and single-minded, and so it will fall far short of the action, centrally directed, followed with implicit belief and devotion, of which an authoritarian State is capable. Hence democracy, to hold its own, must evolve high qualities of sociality, a sense of interdependence, and self-denial,

¹ Condeshove Kalergi, *The Totalitarian State Against Man*

which have often been overshadowed by pride in "rugged individualism," "what's mine's my own," "mind your own business," "stick to your job," "let the other man do it" and all the mental paraphernalia of *laissez-faire* individualism. There is to be found in Britain probably a higher sense of public service, more people performing arduous duties without any other reward than social prestige, than exists elsewhere. Its voluntary services are unrivalled. But most of them are leadership in the common good, and a sense of interdependence involves more self-subordination to the common end.

An Educational Programme

The educational programme should carry on the good work of choosing a most suitable "knowledge-content" for democratic judgment, with adequate mental training also carried by it. But it ought now to focus much more upon developing special mental aptitudes. It should teach much more directly and specifically, with positive and negative illustrations

- (1) The nature of a *fact* in each field of knowledge
- (2) The character of *proof*, also in each field of knowledge
- (3) The nature of fallacy—particularly the fallacy of composition, which vitiates all social thinking to-day
- (4) The interdependence of knowledge, "the altogetherness of everything"
- (5) The art, rather than the science, of government by consent

I have elsewhere stressed the educational programme which can best evoke these mental aptitudes, or correct habits¹. But these are still mental qualities, and they alone are not enough, for they do not give the devotional qualities the nervous drive that makes action the effective end of knowledge. To make self-centred lives "bad form", to find instinctively that social usefulness is "good form", to develop a new sense of sacrifice and a willingness to compromise, to preserve a willingness to serve in a team while maintaining a high degree of experimental personal initiative, to get as much satisfaction out of a piece of successful co-operation as from a one-man job—all this needs idealisms which call for a revival of religious impulses and dynamics, and I do not see how we can afford to let these slip out of our educational system. These emotional ideals stretch from mere sociality and humanism through fine humanitarianism, to the best reaches and sacrifices of the Christian ethic. We have to secure from free enthusiasms results as effective as those produced by fear, by force, or by blind or instructed devotion, and we cannot leave this development of ethical insight and power to chance forces. Their development must begin in the schools, and the technique of that development, through curricula and disciplines, is yet to be evolved by practice and experiment.

STAMP.

¹ *Ideals of a Student and We Live and Learn*

APPENDIX

PLANS FOR THE PROTECTION OF SCHOOLCHILDREN IN WAR TIME

THE widespread preparations for the protection of school-children of the United Kingdom during the threat of war in September 1938 are interesting and important as an illustration of the vital function which the teachers of a nation can perform in a national emergency. They were perhaps the first example of corporate action by the teaching profession of a nation in collaboration with the Government and the public—the first occasion when a nation's educational administration had been called upon to act as a unit in the public service.

The problem of what to do with the six and a half million children in schools in the event of a war which was likely to open with widespread air attack, had occupied the attention of Whitehall intermittently since 1935. By the Air Raid Precautions Act of 1937 the British Government assumed responsibility for the protection of schoolchildren, and in particular for their evacuation from areas of special danger. In January 1938, the Board of Education issued a Circular (No. 1161) to all Local Education Authorities advising them with regard to the general lines which they should follow in tackling the problem. The Circular left much to the discretion of the Authorities, and one of the points on which it laid stress was that any action taken must be with the consent of the parents.

Meanwhile, steps were gradually being taken towards the formulation of a comprehensive national scheme for the general evacuation of dangerous areas, beginning with the children and continuing with as much of the adult population as could be included, and a Committee of the House of Commons was appointed in May 1938 under the Chairmanship of Sir John Anderson. This Committee actually reported to the Home Secretary in July, but in the public interest it was thought wise to hold up the publication of the report, as the international situation was by then beginning to be extremely critical and the Government did not wish to produce any statement of policy which might possibly alarm public opinion unnecessarily.

The most important subject under discussion by the Committee and by everyone else concerned was, of course, the evacuation of London, as the most vulnerable target in Europe for air attack. The London County Council appreciated to the full the seriousness and urgency of the problem and to some extent independently of the Committee, prepared a remarkably thorough scheme of evacuation. During September, Sir George Gater (Clerk to the L.C.C.) and the Education Officers, together with the A.R.P. Department of the Council, hurried in the space of a fortnight a complete machinery

for the evacuation of the 500,000 schoolchildren in the London area. Their scheme was presented to the Home Office, and was subsequently incorporated in the Government preparations based on the Anderson Committee's report. On Thursday, September 29th (the most critical day in the international crisis), the combined scheme was broadcast in the B B C news bulletins.

Under the scheme L C C teachers were holding themselves ready, with a minimum supply of food and clothing already packed, to take charge of the children, who were to gather at their usual schools (if not already there in school hours), and convey them in parties of not more than fifty to the nearest underground or main-line railway station, where special trains would be waiting to take them into the country. In the meantime, Home Office officials had arranged for the billeting of the children in private houses, institutions and camps in the countryside of the sixteen counties around London at distances from the centre of 30 to 100 miles. The "foster-parents" who were to billet the children were to be paid 10s 6d a week for one child and 8s 6d a week per child if more than one was taken. Neither the children nor their parents would know beforehand where the billets would be, but on arrival at the destination every child would be given a postcard to despatch to its parents notifying them of his or her whereabouts. Before the announcement of the scheme the L C C had held (on September 24th-26th, meetings of parents in all its districts to obtain their assent to the scheme, and it is recorded that more than 80 per cent. of the parents agreed to leave the children in the care of the teachers and not to insist on keeping them at home.

Outside London the preparations varied according to the presumed vulnerability of each area. Generally speaking, the schools in the country, whether State or private, would have closed on the outbreak of war and remained closed at the discretion of the Authorities or of their Managers or Governors. The plans for closure extended as far north as the highlands of Scotland, and even into the far west of Wales and Cornwall. Evacuation was not generally provided for except in the case of clearly vulnerable areas, such as large cities or the neighbourhoods of big armament works, aircraft factories, etc. The county of Essex, for example, being for the most part as vulnerable as London itself, had a complete scheme for the evacuation of all children in its southern and eastern areas into the north-west of the county and the adjoining shires. In Essex, as in similar districts, large bodies of local residents were enrolled as voluntary helpers to assist the teachers, especially in the provision of motor transport. At the same time arrangements were made in many areas to use the schools as First-Aid posts and for the storage of gas-masks and other emergency material. Teachers had been trained, in accordance with the Board of Education's Circular 1461, in A R P and First-Aid measures, and it was generally stated by the Local Authorities that the teaching staffs had shown remarkable diligence and unselfishness in working

many hours overtime in making themselves and their schools ready for any emergency. In some districts where the children were not to be evacuated, but where there was considerable danger of an attack, the teachers instructed their classes in what to do if there was an air raid. For instance, in some schools the children were told to take cover in the classrooms by lying flat on the floor under their desks, in others, trenches had been dug in the school grounds into which the children were to take refuge, in others again, the instructions were that the children must scatter from the school in the neighbouring woods, haystacks and hedgecrows. In a large number of districts, particularly in the north and west, the only instruction was that children were to be sent home immediately on the warning of an air raid, unless they lived too far afield to make the journey within seven to ten minutes.

When the crisis was over, and particularly when the Anderson Committee's report was eventually published at the end of October, much of the criticism directed against the Government for the apparent inadequacy of the civil defences was concentrated on the delay in the formulation of the London evacuation plan. It was also held that there should have been more extensive measures for the actual protection of children in the schools themselves, and a number of critics urged the permanent provision of adequate trenches in school grounds or of concrete air-raid shelters capable of holding all the pupils of schools in "front-line" danger areas. It was also pointed out that Local Authorities were not equipped with adequate statutory powers for the enforcement of their ARP decisions.

Undoubtedly the most valuable idea that arose out of the discussion was described by Sir Robert Evans at the Annual Dinner of Moray House Training College, Edinburgh, in November. His proposal was for the establishment throughout Great Britain of garden villages in which all schoolchildren should spend a month every year living and working in rural surroundings. Apart from their sociological and educational value, these villages would, Sir Robert maintained, provide in time of war permanent and reliable refuges for the school population, a solution of the problem greatly to be preferred to haphazard billets in strange homes.

This proposal has been widely supported, notably by *The Times* in a leading article, and by public men in all departments of the national life. It may be said without fear of contradiction that public, and especially educational, opinion favours this solution, and that though there may be difficulties in the way, some form of garden village or school camp will, unless unexpected developments occur, ultimately be adopted by the Government.

INDEX

The following abbreviations are used throughout this Subject Index

L E A	= Local Education Authority
N Z	= New Zealand
N I	= Northern Ireland
P E S	= Public Elementary School
S A	= South Africa
U S A	= United States of America
U S S R	= Union of Soviet Socialist Republics

N B—All entries refer to England and Wales unless otherwise stated

A

ADMINISTRATION, agricultural education, 183-184, difficulties affecting reorganisation in counties, 373-374, finance, 59, 60, 236, technical education, problem of, 499-507, *Australia*, finance, 74, *Canada*, finance, 67, *Eire*, finance, 85, *France*, technical education, 500-501, *Holland*, technical education, 588-591, *India*, *British*, female education, survey, 399-400, 401-411, finance, 87, *N I*, finance, 63, *N Z*, finance, 81, *Scotland*, bibliographical note, 317, finance, 243, 246, *S A*, finance, 78, *U S A*, statistical survey by States, 92, supervision of vocational education, 731-733

ADULT EDUCATION (see also Vocational and Technical), bibliographical notes, 324-326, *Denmark*, development of, 512, *U S A*, statistics, 88

ADVANCED INSTRUCTION, duties of L E A s to provide, 128

AGE-GROUPS, all ages in all institutions, 39-40, elementary education, junior departments, 8-12 years and 11 and over 30, senior departments, number and percentage of pupils 11 and over 30, regional survey of 10-11 years 145-150, 152, of 11-12 years 130-133, of 13-14 years 130-133, under and over 11 years by classes, grade and sex of teacher in charge 45, secondary schools, efficient, 11-12 years, 145-150, vocational and technical education, all ages, 176-180, agriculture, percentage of 14-21 years to population, 191

AGE, SCHOOL, RAISING OF, "beneficial employment," survey of exemptions for, 11-12, influence on senior and central schools, 369, *Eire*, experiment in, 82, *Scotland*, financial arrangements for, 246

AGRICULTURAL COLLEGES, statistics, 52, 53

AGRICULTURAL EDUCATION, finance, 59, 60, 191, statistics, students by type of L E A 47, by type of institution 53, survey by regions, 183-192, *Australia*, statistics, 70, 71, *British Malaya*, note on, 191, 483, *Canada*, finance 67, Prince Edward Island, survey of 617-618, *Egypt*, survey of, 752, *Eire*, finance, 83, statistics, 85, *N I*, statistics, 63, *Scotland*, finance, 247, *S A*, finance, 78, *U S A*, survey of, 733-735, *Wales*, survey by regions, 733-735

AGRICULTURE, males occupied in big percentages, 150, totals by sex and regions, 185-189

AGRICULTURE AND FISHERIES, MINISTRY OF, assisted students, 56, higher education, grants to, 35, scholarships, number of, 53

AIR RAID PRECAUTIONS, plans for protecting schoolchildren in war time, 805-807

ALBANIA, statistics, 96

ALBERTA, finance, 67, statistics, 65, technical education, survey of, 625-627

AMERICAN VOCATION ASSOCIATION, recommendations of, 721-726

APPRENTICESHIP TRAINING, B T H Company's scheme, 563-566, survey of problem of, 514-518,

- 546-548, *Australia*, survey of, 640-641, 662-664, *Belgium*, system of, 593-595, *Canada*, British Columbia 628, Ontario 621, *France*, tax d'apprentissage, 500, *Germany*, survey of, 572-577, *Holland*, system of, 584-585, *NI*, system of, 707-709, *NZ*, changes in nature of, 695-696, *SA*, problem of, 683-684, *USA*, problem of, 737-738
- APPROVED SCHOOLS, character of cases sent to, 37, Children and Young Persons Act, 1933, effect on 15-17, finance, 59, 60, statistics, 39, 58, *Eire*, finance, 83, statistics, 85, *Scotland*, finance, 83, statistics, 85, *SA*, finance, 78
- ARBEITSFRON, *Germany*, note on, 279
- ARBEITSGEMEINSCHAFT, *Germany*, note on, 276
- ARITHMETIC, diagnosis of individual difficulties, 309, need for new type of in senior schools, 365-366
- ART EDUCATION, statistics, 47, 52, 175, *Burma*, finance, 87, statistics, 86, *Canada*, note on, 615, *Eire*, finance, 85, note on, 292, statistics, 85, *India*, *British*, finance, 87, statistics, 86
- ASSAM, PROVINCE OF, female matriculants and graduates, 394, finance 87, female university education, 404, inspection of girls' schools, 409, prospects for female education, 418, statistics, all institutions, 86
- ASSISTANT MASTERS' ASSOCIATION, membership of, 51
- ASSISTANT MISTRESSES' ASSOCIATION, membership of, 51
- ATTENDANCE, AVERAGE, finance, cost per unit of, 234, statistics, by type of institution, 44, *Eire*, increase in, 290, variations in, 82, *Scotland*, all institutions, 61
- ATTENDANCE, COMPULSORY, *India*, *British*, problem of, 393, 438-439
- AUFBAUSCHULEN, *Germany*, note on, 274-275
- AUSTRALIA, bibliographical notes, 317-318, finance, 74, statistics, 68-73, technical education, survey of, 635-664
- AUSTRIA, statistics, 96
- AUTHORITIES, LOCAL EDUCATION (see also each Authority), agricultural scholarships, 53, "beneficial employment," West Riding recommendations, 11-12, "Black List," present position of, 31, Children and Young Persons Act, 1933, example of working of, 14-17, finance, combined expenditure 59, survey of expenditure 233-238, nursery schools, attitude towards, 32, post-primary education, regional provision for, 128-213, statistics, 47, 48, primary education, reorganisation, progress of 31, statistics, organisation and staffing 43, school medical services, statistics, 57, teachers' training courses, 54, university assisted students, 56, *Eire*, finance, 85, *NI*, finance, 63, *NZ*, finance, 81, *Scotland*, finance, 242-244, *Wales*, regional provision for post-primary education, 214-231
- B
- BACKWARDNESS, in children, causes of, 307
- BELGIUM, statistics all institutions, 96, technical education, after school education, 519, creation of central unit, 511, development of the Université du Travail, 512, 592-598, development of literature, 520, realisation of real task of, 532
- BENGAL, PROVINCE OF, administration, primary education, 407, finance 87, female university education 404, 440, inspection of girls' schools, 409, primary education, defectiveness of, 391, statistics, all institutions, 86, female matriculants and graduates, 394
- BIHAR AND ORISSA, finance 87, female university education 404, inspection of girls' schools, 409, statistics, all institutions, 86, female matriculants and graduates, 394
- BILINGUALISM, problem of, in British Malaya 469-490, in Ceylon 457-468, in Colonial Territories 454-456
- BIOGRAPHIES, bibliography, 314-316
- BIRTH RATE, influence on number of pupils, 33, reasons for fall in, 307
- "BLACK LIST," present position of, 31, 33
- BOARD OF AGRICULTURE ACT, 1889, powers transferred under, 183

BOARD OF EDUCATION, application of grant system by selected L E A s, 196, application of Regulations of 1932 by selected L E A s, 99, Circular No 1463, recommendations regarding School Certificate Examination, 17-19, courses for teachers, 54, defective hearing, Committee's Report on, 20-21, finance, survey of, 232-233, Grants System, Memorandum on, 198-200, List 60, schools on, 48, university assisted students, 56

BOMBAY, PRESIDENCY OF, administration, primary education, 407, finance 87, female university education 404, 442, inspection of girls' schools, 409, statistics, all institutions 86, female matriculants and graduates 394, vernacular schools examinations, note on, 420

BOOK PRODUCTION, statistical bibliography in relation to modern civilisation, 758-776

BOROUGH COUNCILS, primary education, organisation and staffing, 43

BORSIAL, experiment in vocational guidance, 308

BOY SCOUTS, Egypt, note on, 755

BRITISH COLUMBIA, finance, 67, statistics, 66, technical education, survey of, 627-629, unemployed youth, policy for, 632

BUILDINGS, SCHOOL, cost of, influence on reorganisation, 336-337, 376, *Scotland*, finance, 253

BULGARIA, statistics, 96

BURMA, finance, 87, statistics, all institutions 86, female matriculants and graduates 394

BUSINESS, EDUCATION FOR (see also Commercial Education), *Australia*, statistics, 68-72, *Canada*, statistics, 64-66, *U S A*, statistics, 88

C

CANADA (see also each Province), finance, 67, statistics, 64-66, technical education, survey of, 604-634

CAPE OF GOOD HOPE, statistics, 76, 77

CARNEGIE FOUNDATION, conclusions on vocational education, 730-731

CENTRAL ADVISORY BOARD, INDIA, recommendations on female education, 435-436

CENTRAL PROVINCES, INDIA, finance 87, female university education 404, inspection of girls' schools, 409, prospects for female education, 419, statistics, all institutions 86, matriculants and graduates 394

CENTRAL SCHOOLS (see also Senior Schools), survey of, 327-388

CEYLON, language problems in, 450-455, 457-468

CHARITY SCHOOL MOVEMENT, importance of, 311

CHILDREN AND YOUNG PERSONS ACT, 1933, report on working of, 14-17

CHINESE, EDUCATION OF, British Malaya, survey of educational statistics, 92-127, 470, vernacular schools 476-478, English schools 480-481, teachers in vernacular schools 486-487, in English schools 488-489

CHURCH OF ENGLAND SCHOOLS, P E S, historical development of, 33, reorganisation, attitude of authorities to 136-137, progress of 31

CINCINNATI CO-OPERATIVE SYSTEM, U S A, technical education, scheme for co-ordination, 504

CIRCULAR No 1463, modern languages, effect on teaching of, 17-19

CITIZENSHIP, in relation to education and society, 299-303, Consultative Committee and teaching of, 331-333, influence of crisis of 1938 on teaching of, 333-334, the teaching of, 361-362

CIVILIAN CONSERVATIVE CORPS, U S A, statistics, 88

CLASSES, SCHOOL, P E S, number, by size 44, by type of L E A 43, secondary, by size, 49

CLASSIFICATION OF PUPILS, difficulty of in senior schools, 361

CLINICS, SCHOOL, statistics, 57

CO-EDUCATION, *British Malaya*, policy regarding, 115, 474, *India*, *British*, problems of, 393, 397-398, 436, 448-449

COLONIAL EDUCATION, language problems in, 450-456

COMBINED SCHOOLS, N Z, statistics, 79

COMMERCE, EDUCATION FOR (see also Business), *British Malaya*, finance, 120-127, notes on, 115-116, 118, *Canada*, departments of 613-614, statistics 615-616, 617, 618, *Egypt*, survey of, 752,

- EDUCATION (SCOTLAND) ACT, 1918, payments under, 240
- EDUCATION, COMPARATIVE, bibliographical survey, 316-321
- EDUCATION (SCOTLAND) FUND, notes on, 239-241
- EDUCATION, HISTORY OF, bibliographical survey of, 311-316, origins of educational system, 355-358, *Australia*, technical education, 642-647, *India*, *British*, female education, 412-422, *N Z*, technical education, 690-694
- EDUCATIONAL EXPERIMENTS, bibliographical survey of, 305-311, *Ceylon*, notes on, 464-465
- EDUCATIONAL LADDER, survey of, 32
- EDUCATIONAL PHILOSOPHY, need for new type of, 327-329, survey of in a democracy 254-261, 803-804, in *Eire* 282-294, in *Germany* 262-281
- EDUCATIONAL PRINCIPLES, bibliographical survey of, 304-305
- EDUCATIONAL PSYCHOLOGY, bibliographical survey of, 305-311
- EDUCATIONAL RESEARCH, current research in education, 756-802
- EDUCATIONAL THOUGHT, survey of, 295-305
- EFFICIENT SCHOOLS, CRITICISED, statistics, 39, 44
- EGYPT, survey of education, 746-755
- EUR, statistical and financial survey, 82-85, survey of education, 282-294
- ELEMENTARY EDUCATION (see also *Primary and Senior Schools*), "Black List," present position of, 31, cost per pupil in average attendance, 196, 199, ex-curricular activities, 310, ex-pupils, secondary schools, admissions to 49, by counties 145-149, by types of area 150, by selected cities 152, by selected regions 153, fee-paying and free pupils, by occupation of parents 156, by 12-year-old age-group 158, percentages by counties 160, universities at 50, 171, finance, policy of the State 193-213, survey of 59-60, 232-235, length of school life, 33, reorganisation, percentage of children passing to senior schools 199, progress of 30-31, regional survey of 128-139, school medical services, 57, statistics, classes by grade, sex of teacher and age-group of pupils 45, departments by sex, age and number of pupils 39, institutions by type of 44, practical instruction, provision for 45, survey by type of *L E A* 43, teachers by sex, number and qualifications 46, survey of senior and central schools, 327-388, *Egypt*, survey of, 746-748, *Eire*, as basis for all education, 288-289, *Germany*, new conception of, 269-272, *U S A*, finance, 94, statistics, enrolment by grades 91, by states 89-90, *Wales*, ex-pupils in secondary schools 218-219, in universities 223, finance, cost per child, 227, regional survey, 227
- ELEMENTARY SCHOOLS, NON-LOCAL, statistics, 39
- EMPLOYMENT, beneficial, problem of, 11-12, percentage of *P E S* pupils leaving for, 33
- ENDOWMENTS (see also *Scholarships*), finance, 59-60, *Australia*, finance, 74, *Canada*, finance, 67, *Scotland*, finance 243, 248, universities 245, *S A*, finance, 78
- ENGLAND AND WALES (see also *Wales*), bibliographical survey of year's work, 295-326, finance, survey of, 232-238, history and development of preparatory schools, 785-793, post-primary education, regional provision for, 128-213, State intervention in education under the early Stuarts, 794-802, statistics, survey of, 30-60, statistical bibliography in relation to modern civilisation, 758-776, survey of senior and central schools, 327-388, teaching of Latin, 777-784, technical education, influence of system on *Australia*, 642-643, problems confronting 567-571, relation to industrial management 555-566
- ENGLISH LANGUAGE, *British Malaya*, position of, 471-473, 475-476, 477-478, 480-482, *Ceylon*, position of, 459-460, *Colonial Territories*, demand for, 451-456, *Germany*, position of, 275, *India*, *British*, position of, 451-452
- ESTONIA, statistics, 96
- EURASIANS, EDUCATION OF, *British Malaya*, statistics, 102, 112, 470, 480, 488
- EUROPE (see under each country), language problem in, 451, statistics, 96

GARDENING, P E S, facilities for, 45
 GERMANY, bibliographical notes, 319, definition of rights of individuals, 328, Nazi philosophy, survey of, 255-258, statistics, 96, technical education, administration 503, apprenticeship 517-518, 572-577, day continuation school system 535, early realisation of value of 497-498, Kerschensteiner's reform of 507, technical universities 536, "Technische Hochschulen," development of 512, the Bauhaus in Dessau 511, the Weikbund 520-521, the Weikstudenten system 506, 526, tradition of "Gesellenwandern" 505, the conditions and content of the new order of education, 262-281
 GIRL GUIDES, Egypt, notes on, 755
 GREECE, statistics, 96
 GYMNASIUM, Germany, changes in, 274-275

H

HADOW REPORT (see also Reorganisation), intention of the Committee regarding senior schools, 357-358, *Australia*, influence on junior technical schools, 654
 HEADMASTERS' ASSOCIATION, membership, 51
 HEADMASTERS' CONFERENCE, schools represented on, 48
 HEADMISTRESSES' ASSOCIATION, membership, 51
 HEALTH, MINISTRY OF, educational responsibilities, 35
 HEARING, DEFECTIVE, bibliographical note, 323-324, B of E Committee's Report on, 20-21
 HERBERTIAN PHILOSOPHY, Germany, influence of 264-265, repudiation of 266-267
 HIGH SCHOOLS, U S A, restatement of purposes of, 729-730
 HIGHER EDUCATION (see also Technical and University), finance, L E A s 59, State 60, survey of 236, financial policy of the State, 202-213, *European Countries*, statistics, 96, *India, British*, female education, 394-398, survey in the Punjab, 428-431
 HIGHER SCHOOL CERTIFICATE, leavers from grant-aided secondary schools possessing by regions, 167-170, *Wales*, regional survey, 220-222

HITLERJUGEND, Germany, note on, 279
 HITLER SCHOOLS, Germany, bibliographical note, 319, note on, 279
 HITLER YOUTH, Germany, note on, 279-280
 HOLLAND, statistics, 96, technical education, participation of free groups in, 582-591
 HOME OFFICE, educational responsibilities, 35
 HOMEWORK, bibliographical note, 323
 HUMANISM, technical education, influence of, 507-509
 HUMANITARIAN SOCIETY, THE MILAN, survey of, 578-581
 HUNGARY, statistics, 96
 HYGIENE, place of in senior schools, 346-347

I

INDIA, BRITISH (see also each Province), finance by Provinces, 87, 440, position of the English language, 451-452, statistics by Provinces, 86, survey of female education, 389-449
 INDIANS (outside India), *British Malaya*, facilities for education of, 471, 478-480, statistics, 97-127, 471, teachers in English schools 488, in vernacular schools 487-488, *Canada*, finance, 67, statistics, 64-66, *S A*, statistics, 76, *U S A*, statistics, 88
 INDUSTRIAL MANAGEMENT, technical education, relation to, 555-566
 INDUSTRIAL SCHOOLS (see Approved Schools)
 INDUSTRY, percentages of males occupied in, 150
 INFANT DEPARTMENTS, P E S, importance of play in, 310, present position, note on, 32, statistics, survey by sex, age and number of pupils 39, 41, by type of L E A 43
 INSPECTORS, SCHOOL, and the writing of textbooks, 29, *India, British*, female education, problem of 399-400, system of 408-410
 INTELLIGENCE, families, size of, influence on, 12-13, standard, reduction in, 307
 INTERMEDIATE SCHOOLS, *European Countries*, statistics, 96, *N Z*, statistics, 79
 INTERNATIONAL LABOUR CONFERENCE, attitude towards technical education, 544-549

INTERNATIONAL LABOUR ORGANISATION, attitude towards vocational training 543, enquiries regarding 550-554

INTERNATIONAL STUDIES, bibliographical note, 317, value of, 544-545

IRISH EDUCATION, bibliographical note, 313

IRISH FREE STATE (see *ERIC*)

ITALY, statistics, 96, technical education, pre-apprenticeship 527, prevalence of local industries 504, the Humanitarian Society, Milan, survey of 578-581

J

JAPANESE, British Malaya, statistics, 102

JEWISH EDUCATION, note on history of, 312, P.E.S., statistics, 44

JUNIOR DEPARTMENTS, P.E.S., reorganisation, progress of, 30-31, statistics, survey by sex, age and number of pupils 39, 41, by type of L.E.A. 43, utilisation of natural interests, 310

JUNIOR TECHNICAL SCHOOLS, bibliographical notes, 312, problem of, 569-570, statistics, pupils, by sex, age and number 40, 52, by type of L.E.A. 47, increase of 32, schools by regions 175, *Australia*, some problems of, 660-662, survey of, 654-656, system in Victoria, 659-660

JUVENILE COURTS, effect of Children and Young Persons Act, 1933, 15-16

JUVENILE DELINQUENCY, Children and Young Persons Act, 1933, effect on, 15-16, Home Office schools, system of, 35, *Canada*, finance, 67

JUVENILE UNEMPLOYED, CENTRES for, finance, 59, 60, statistics, 37, 40, *Scotland*, finance, 242

K

KEMPE REPORT, THE, grants formula recommendations, 197, 203

KINDERGARTENS, *Australia*, statistics, 68-72, *N.Z.*, statistics, 79, *European Countries*, statistics 96

KUO YUE, British Malaya, Chinese vernacular schools, introduction of, 477

KRIECK, definition of National Socialism, 260-267

L

LABOUR, MINISTRY OF, centres for juvenile unemployed, 37

LAND YEAR, Germany, note on, 272

LANGUAGES, CLASSICAL, Seventh International Conference, recommendations regarding, 25-27, Latin, the teaching of, 777-784, value of, 301, *Germany*, note on, 275

LANGUAGES, MODERN (see also each language), secondary schools curriculum, future position in, 17-19

LATIN, critical and historical survey of, 777-784

LATVIA, statistics, 96

LEISURE TIME, changing conceptions of, 342, problems of training for, 340, 371, technical education, relative to, 522-524

LEITGEDANKEN ZUR SCHULORDNUNG, Germany, note on, 267

LIST 60, schools recognised by B of E, 48

LITHUANIA, statistics, 96

LOCAL TAXATION (SCOTLAND) ACCOUNT, note on, 239

LOAN CHARGES, elementary education, cost per unit of average attendance, 234, higher education, 236, *Scotland*, table showing, 243, total outstanding, 253

LOI ASPIER, France, technical education, 503

LUXEMBOURG, statistics, 96

M

MADRAS, PROVINCE OF, administrative system, 410, finance 87, female university education 404, inspection of girls' schools, 409, statistics, all institutions 86, female matriculants and graduates 394

MAINTENANCE, SCHOOLS OF, finance, 234, *Scotland*, finance, 243

MALAYA, BRITISH, policy and methods with reference to bilingual problems, 469-490, survey of educational statistics, general 97-102, English education 109-115, vernacular education 102-109

MANITOBA, finance, 67, statistics, 65, technical education, survey of, 623-624

MAORIS, EDUCATION OF, N.Z., statistics, 79

MEALS, SCHOOL, cost per unit of average attendance, 234, provision of, 57, reorganisation, problem of, 375-376

- MEDICAL EDUCATION, British Malaya, note on, 117, 119
 MEDICAL SERVICES SCHOOL, bibliographical notes, 322-324, finance, 59, 60, statistics, 57, *Australia*, finance, 74, statistics, 68, *Canada*, finance, 67, *Eire*, finance, 83, *U S A*, statistics, 88
 MEISSNER FORMULA, 1913, Germany, note on, 262
 MENTAL DEFICIENCY, bibliographical note, 324, problem of, 307
 METALWORK, P E S, facilities for, 45
 METHODIST SCHOOLS, P E S, statistics, 44
 MILA, SCHOOL, provision of, 57, 58
 MINES, SCHOOLS OF, *Australia*, notes on, 643, *S A*, notes on, 670, 671
 MINISTRY OF AGRICULTURE AND FISHERIES ACT, 1919, administrative changes, 184
 MISSIONARY EDUCATION (see also under each denomination), *British Malaya*, types of, 109, *Egypt*, survey of, 753-755, *India*, *British*, early work in female education, 414-415, 420-421, *N Z*, statistics, 79
 MOUNTAIN SCHOOLS (see Senior Schools)
 MORRILL ACT, 1862, *U S A*, effect on technical education, 494-495
 MUSICAL EDUCATION, *British Malaya*, notes on, 116

N

- NATAL, statistics, 76, 77
 NATIONAL ASSOCIATION OF HEAD TEACHERS, membership, 46
 NATIONAL ASSOCIATION OF SCHOOLMASTERS, membership, 46
 NATIONAL FEDERATION OF CLASS TEACHERS, membership, 46
 NATIONAL OCCUPATIONS CONFERENCE, *U S A*, vocational guidance research, 729
 NATIONAL POLITICAL ASSOCIATIONS, Germany, bibliographical note, 319-320, relation to education, 278-279
 NATIONAL SOCIALISM, Germany, bibliographical notes, 319-320, survey of, 265-267
 NATIONAL SOCIALISTISCHE DEUTSCHE ARBEITERS PARTEI, note on, 279
 NATIONAL UNION OF TEACHERS, membership, 46
 NATIONAL YOUTH ADMINISTRATION, *U S A*, interest in vocational guidance, 728-729

- NATIVES, EDUCATION OF (see also each type), *S A*, finance, 81, statistics, 76, 79
 NAUTICAL TRAINING, statistics, 52
 NECESSITOUS AREAS, grant, inadequacy of, 195-196
 NETHERLANDS, THE (see Holland)
 NEW BRUNSWICK, finance, 67, statistics, 64, technical education, survey of, 616-617, unemployed youth, policy for, 632
 NEW SOUTH WALES, finance, 74, technical education, 657, statistics, 68, technical education, mobile workshops 655, problem of apprenticeship 663, technical colleges 649, 652, university faculties 648, 650-651
 NEW ZEALAND, bibliographical notes, 318, finance, 81, statistics, 79-80, technical education, survey of, 690-702
 NORMAL SCHOOLS (see also Teachers' Training), *Canada*, finance, 67, statistics by Provinces, 64-66, *European Countries*, statistics, 96
 NORTHERN IRELAND, finance, 63, statistics, 63, technical education, survey of, 703-714
 NORTH-WEST FRONTIER, PROVINCE OF, finance 87, female university education 404, inspection of girls' schools, 409, statistics, all institutions 86, female matriculants and graduates 394
 NORWAY, statistics, 96
 NOVA SCOTIA, finance, 67, statistics, 64, technical education, early beginnings 605-606, 608, survey of 614-616, unemployed youth, policy for, 632
 NURSERY SCHOOLS, aims of, 310, present position, 32, statistics, 39, 44

O

- OBERSCHULE, Germany, changes in, 274-275
 ONTARIO, PROVINCE OF, finance, 67, statistics, 65, technical education, early beginnings 605-606, 608, survey of 620-623, unemployed youth, policy for, 632, 633
 ORANGE FREE STATE, statistics, 76, 77
 ORDENSBURGEN, Germany, note on, 279
 OVERWORK, SCHOOL, report on, 13-14

P

PARENTS, attitude to reorganisation, 375, comparison of secondary education by occupations of, 154, distribution of by occupations, 157-159, fee-paying and free pupils by occupations of, 156

PART III AUTHORITIES, application of grant system, 196, application of 1932 Regulations, 200, primary education, reorganisation, progress of 134-139, survey of organisation and staffing 43

PHYSICAL TRAINING, bibliographical notes, 322-324, localisation of importance of, 334-335, work of the school medical service, 346-347, *Egypt*, survey of, 755, *Germany*, bibliographical note, 320, new attitude to, 267-269, *Switzerland*, finance, 248-249

PLAY CENTRES, psychological value of, 309-310

POLAND, statistics, 96

POYCAMY, India, introduction of Bill to restrain, 424

POLYTECHNICS, models for technical education, 508-509

POOR LAW SCHOOLS, statistics, 35, 39, 44

POPULATION, estimated by age-groups, 36, intelligence, inferior type, increase in 307, influence of size of families on 12-13, percentages by types of post-primary institutions, 47, rural, by sex and regions, 185-189, 191, secondary schools, pupils per thousand of, 141, *Australia*, by States and age-range, 68-73, *British Malaya*, by races, 99, estimated by age-groups, 105, *Burma*, by sex, 86, *Canada*, by Provinces and age-groups, 64-66, *France*, by age-range, 84, *European Countries*, estimated, 96, *India*, *British*, by Provinces, 86, *NI*, by age-groups, 63, *NZ*, by age-groups, 79, occupational distribution, 695, *Scotland*, by age-groups, 61, *SA*, by age-groups, 75

PORTUGAL, statistics, 96

POST-PRIMARY EDUCATION (see also Adult, Agricultural, Higher, Technical and University), and citizenship, 330-337, educational ladder, note on, 32, percentage of ex-PLES pupils leaving for, 37, relation to vocation, citizenship and leisure, 336-344, statistics,

all institutions 40, by type of I. E. A. 47, survey of regional provision for, 128-213, *Canada*, statistics by Provinces, 64-66, *NZ*, finance, 81, probable destination of pupils, 80, *Wales*, regional provision for, 214-231

PRACTICAL INSTRUCTION, official recognition of, 380, statistics, 15, value of, 365

PREPARATORY COLLEGES, *Eire*, statistics, 85

PREPARATORY DEPARTMENTS, ESTABLISHED, finance, 60, statistics, 40, *Scotland*, statistics, 61, *Wales*, statistics, 42

PREPARATORY SCHOOLS FOR BOYS, history and development of, 785-793

PRIMARY EDUCATION (see also Elementary and Senior Schools), statistics, all institutions 39, organisation and staffing by I. E. A. 43, *Australia*, finance, 74, statistics by States, 68-72, *British Malaya*, analysis of finance, 120-127, statistical survey, 97-119, *Burma*, finance, 87, statistics, 86, *Canada*, statistics by Provinces, 64-66, *Eire*, statistics and finance, 82-85, transition to technical system, 291, *European Countries*, statistics, 96, *India*, *British*, finance, 87, primary education, defective nature of, 391-393, statistics, 86, *NI*, finance, 63, statistics, 63, *NZ*, finance, 81, probable destination of pupils, 80, statistics, 79, *Scotland*, finance, 239-253, statistics, 61, *SA*, finance, 78, statistics, 75-76

PRINCE EDWARD ISLAND, finance, 67, statistics, 64, technical education, survey of, 617-618

PRIVATE SCHOOLS, ex-pupils admitted to grant-aided secondary schools, 153, finance, 60, statistics, 48, *Australia*, statistics, 68-72, *Canada*, statistics by Provinces, 64-66, *Eire*, statistics, 84, *NZ*, statistics, 79, *Scotland*, statistics, 61, *SA*, statistics, 75-77, *USA*, statistics, 89, *India*, *British*, women's education, 420-422, *Egypt*, survey of, 753

PUBLIC SCHOOLS, bibliography, 313, growth of preparatory schools administered by, 790-791, technical education, introduction in, 506

PUNJAB, THE, administration, system of, 411, finance 87, female university education 404, 440, higher education, survey of, 428-431, inspection of girls' schools, 409, Kinnaird College for Women, survey of, 426-428, position of co-education, 448, primary education, note on, 391, prospects for female education, 418, 442, statistics, all institutions 86, female matriculants and graduates 394

PURDAH SYSTEM, India, notes on, 422, 435

Q

QUEBEC, finance, 67, statistics, 64, technical education, early beginnings 605-606, 608, survey of 618-619, unemployed youth, policy for, 632

QUEENSLAND, finance, 74, statistics, 71, technical education, problem of apprenticeship 663, technical colleges 654, university faculties 649, 650-651

R

RATES, higher education, product of *id* rate, 211, product of *id* rate per head of population by counties 150, per child in average attendance 196, per unit of average attendance, 199, *Scotland*, note on, 242, 249, 250, *Wales*, elementary education, product of *id* rate, 227, secondary schools, regional survey, 229-231

READING, CHILDREN'S, problem of choosing books, 311, survey of, 10-20

REFORMATORY SCHOOLS (see Approved Schools)

REICHS YOUTH LEADERSHIP, Germany, note on, 279

RELIGIOUS FACTOR, in relation to education, 298-299

REORGANISATION (see also Senior Schools), cost per unit of average attendance, 234, progress of, 30-31, purpose of, 335-337, survey by regions, 129-139, types of schemes in counties 373-378, in rural areas 381-382, *Wales*, progress of, by regions, 215-216

RESIDUE GRANT (see Whisky Money)

ROMAN CATHOLIC SCHOOLS, finance, 60, P.E.S., historical develop-

ment of, 33, reorganisation, attitude of authorities to 138, progress of 31, statistics 44, secondary schools, statistics, 48, 49, *Wales*, reorganisation, influence on, 216

RUMANIA, statistics, 96

RURAL AREAS, post-primary education, distribution of pupils by areas, 150-152, primary education, reorganisation, local difficulties 138-139, progress of 130, 135-136, statistics, 43, survey of senior schools in, 373-378, 379-388

RURAL SCIENCE, aims of, 384-385

S

SASKATCHEWAN, finance, 67, statistics, 65, technical education, survey of, 624-625

SCANDINAVIA, technical education, 504

SCHOLARSHIPS, agricultural, 53, system, criticism of, 288, technical education, need for system of, 569, university, 55, *British Malaya*, university, 119, *N.Y.*, establishment of trade, 705-707, *Scotland*, university finance, 245

SCHOOL BOARDS, some memories of, 312

SCHOOL CERTIFICATE EXAMINATION, Circular No 1463, recommendations regarding, 17-19, regional differences, 165, school "wastage," as an index of, 163-164, statistics, 50, *Wales*, regional survey, 220-222, *Welsh Act* Report, note on, 22

SCHOOL LEAVERS, secondary schools, survey of, 163-172, *N.Z.*, probable destination of, 80, *Wales*, grant-aided secondary schools by regions, 221-223

SCOTLAND, bibliographical notes on administration, 317, juvenile unemployed centres, 37, survey of finance, 239-253, survey of statistics, 61-62

SECONDARY SCHOOLS (see also Post-primary), approved examinations, statistics, 50, cost per head by regions, 205-209, curriculum, classical languages, recommendations regarding 25-27, modern languages, future position in 17-19, destination of school leavers 34, regional survey 163-172, fees, 49, finance, comparative

37, primary education, "black list," position of 31, classes by grade and sex of teacher and age-range and sex of pupils 45, infant and nursery schools, note on 32, organisation and staffing by type of L E A 43, reorganisation, progress of 30-31, 336, teachers by sex, numbers and qualifications 46, voluntary schools, development of 33, practical instruction, facilities for 45, post-primary education, secondary school leavers, destination of 34, survey by type of L E A 47, regional survey 128-192, private schools, number of pupils, 35, school medical work, 57, technical education, percentage of entrants to 32, students by sex, age and number 40, 42, by type of L E A 47, by type of institution 52, university education, students by sex and number 40, 42, by universities 55, statistical bibliography in relation to modern civilisation, 758-776, *Australia*, all institutions, 68-73, technical education, colleges 652-654, university faculties 650-651, *British Malaya*, racial distribution, 470, statistical survey, 97-127, teachers, 486-489, vernacular schools, 474, 476, 479, vocational education, 483-484, *Burma*, all institutions, 86, *Canada*, all institutions, 64-66, technical education, 615-620, 623, 624, 625, 627, unemployed youth, training for, 633, *Ceylon*, distribution of pupils, 459, *Egypt*, all institutions, 754, *Eire*, all institutions, 84-85, notes on, 290, technical education, 291, *European Countries*, all institutions, 96, *Germany*, all institutions, 96, apprenticeship training, 572, *Holland*, all institutions, 96, technical and vocational schools, 588-589, *India*, *British*, all institutions, 86, co-education, 393, female matriculants and graduates, 390, inspection of girls' schools by Provinces, 409, number of girls attending boys' schools, 448, percentage of females at school, 402, percentage of literacy, 401, *N Z*, all institutions, 79-80, technical high schools, pupils by subjects 700, occupational classification of part-time

students 701, *N I*, all institutions, 63, technical education, 704, 706-707, *Scotland*, all institutions, pupils by age and number, 61, teachers by sex and qualifications, 62, university students, 62, *S A*, all institutions, 75-78, technical education, 672, 674, 677, *U S A*, agricultural education, 734, apprenticeship training, 737-739, enrolment in vocational classes, 733, survey by States, 88-95, trade and industrial education, 735-736, *Wales*, organisation and staffing, 43, 47, survey by institutions 41-42, by regions 214-226
STRAITS SETTLEMENTS (see *Malaya*)
SUPERIOR CHILDREN, importance of cultivating, 309
SWEDEN, statistics, 96
SWITZERLAND, statistics, 96, technical education, prevalence of local industries 504, the Federal Technical College, survey of 599-603

T

TAMIL VERNACULAR SCHOOLS, *British Malaya*, statistics, 107-108, 479, *Ceylon*, position of, 460-461, statistics, 459
TASMANIA, finance, 74, statistics, 69, technical education, university faculties, 649, 650-651
TEACHERS, POST-PRIMARY, organisations, membership of, 51, statistics, 51, *Australia*, statistics, 73, *Eire*, statistics, 82, *N Z*, statistics, 81, *Scotland*, statistics, 62, *S A*, statistics, 77, *U S A*, statistics, 91
TEACHERS, PRIMARY, organisations, membership of, 46, statistics, by classes, age-range and sex of pupils 45, by L E A s 43, by sex, number and qualifications 46, *Australia*, statistics, 73, *Canada*, statistics, 66, *Ceylon*, problem of supply, 465-466, *Eire*, finance, 65, statistics, 82, 85, *India*, *British*, problems of, 392, 419-420, 441, *N Z*, statistics, 81, *Scotland*, statistics, 62, *S A*, statistics, 77, *U S A*, statistics, 91
TEACHERS' SALARIES, elementary, cost per unit of average attendance, 234, finance, 234, 235-237, scales, 235-236 † Seventh Inter-

- 745, the "New Bauhaus," 511, *Wales*, regional survey, 224-226
- TECHNICAL EDUCATION (CANADA) ACT, 1919, extension of, 629, influence of, 611-612, 617
- TEXTBOOKS, SCHOOL, drafting, use and choice of, 27-29, inspectors of schools and the writing of, 29, on citizenship, need for, 302-303, *British Malaya*, the supply of, 489-490
- TRANSVAAL, statistics, 76, 77
- TURKEY, statistics, 96

U

- UNCLEANLINESS, CHILDREN or, statistics, 57
- UNEMPLOYMENT (see also Juvenile Unemployed, Centres for), in the learned professions, note on, 316-317, *Canada*, Alberta, technical education for, 626, new policy for unemployed youth, 631-633
- UNITED PROVINCES, INDIA, finance 87, female university education 404, inspection of girls' schools, 409, problem of co-education, 448, prospects for female education, 418-419, statistics, all institutions 86, female matriculants and graduates 394
- UNITED STATES OF AMERICA, new emphasis on skill in living, 260-261, statistical survey of education, 88-95, technical education, early attempts to raise status of 494-495, survey of 715-745, the "New Bauhaus," 511
- UNIVERSITY EDUCATION (see also Higher), finance, 60, medieval universities, note on, 312-313, statistics, agricultural departments, number of students 53, assisted students 56, entries from secondary schools 50, 166, 171-172, students by sex and number 40, 42, by university and type of course 57, proceeding to, from all sources 171, State scholarships 55, teachers' training departments 54, *Australia*, finance, 74, statistics, 68-72, technical faculties at, 648-649, *Belgium*, the Université du Travail, 512, 519, 592-598, *British Malaya*, statistics, 117, 119, *Burma*, finance, 87, statistics, 86, *Canada*, finance, 67, statistics, 64-66, *Egypt*,

survey of, 752-753, *Eire*, finance, 83, 85, note on, 290-291, statistics, 85, *European Countries*, statistics, 96, *Germany*, bibliographical note, 320, technical universities, development of, 512, 536, *India*, *British*, finance 87, female education 404, statistics 86, female graduates 394, 420-422, *NI*, finance, 63, statistics, 63, *NZ*, finance, 81, statistics, 79, *Scotland*, finance, 244, 245, 246-248, statistics, 61, 62, *SA*, finance, 78, relation of technical colleges to, 675-676, statistics, 75, *Wales*, statistics 42, 55, entrants from secondary schools 223

- U S S R, bibliographical note, 318, statistics, 96

V

- VERNACULAR EDUCATION, *British Malaya*, subdivision of, 97, survey of, 472-480, system of, 102-109, 485-486, *Ceylon*, distribution of vernaculars, 459, problem of English teachers, 466-467, types of, 462, *India*, *British*, female education, 398, need for increase of, 445
- VICTORIA, finance, 74, statistics, 69, technical education, administration of system 658-660, problem of apprenticeship 663, technical colleges 649, 652, 658
- VILLAGE SCHOOLS, *NZ*, statistics, 79
- VOCATIONAL EDUCATION (see also Higher and Technical), importance of, 541-543, problem of orientation, 514, senior schools, type of, needed, 339-340, significance of, 550-554, survey by regions, 173-182, *British Malaya*, survey of, 115-119, 482-485, *Canada*, facilities for, 612-613, 615-619, 629-631, *Eire*, day vocational schools, problem of staffing 292-293, significance of 292, finance, 83, statistics, 84, *European Countries*, statistics, 96, *France*, note on, 514, *Holland*, laws regulating, 588-589, *SA*, comparison with Great Britain, 678-682, finance, 78, statistics, 75, *USA*, federal planning, 717-719, statistics, 88, survey of, 715-745

- VOCATIONAL GUIDANCE, bibliography, 317, 321-322, Borstal experiment in, 308, educational guidance of the school child, 308, psychological qualities, assessment of, 308, *U S A*, analysis of, 726-731
- VOLKSSCHULE, Germany, survey of, 269-272
- VOLUNTARY SCHOOLS, P E S, "Black List," position of, 31, regional survey, 136-137, re-organisation, progress of, 31, statistics, 33, 44, *Scotland*, finance, 241, 247
- W
- WALES (see also England and Wales), finance, agricultural education, 191, regional provision for post-primary education, 214-231, statistics, all institutions 41, post-primary education 47, primary education 43, university education 55
- "WASLAGE," SCHOOL, problem of, 163-164, *India, British*, chief causes of, 436, position of, 442
- WELSH INTERMEDIATE SCHOOLS, statistics, 48, 49
- WEST INDIES, adoption of English language, 451
- WESTERN AUSTRALIA, finance, 74, statistics, 70, technical education, problem of apprenticeship 663, technical colleges 654, university faculties 648-649, 650-651
- WHISKY MONEY, effect on technical education, 174, 202, use for agricultural education, 183
- WIRELESS, listening groups in schools, 341-342
- WOODARD SCHOOLS, bibliography, 313
- WOODWORK, P E S, facilities for, 45
- Y
- YOUTH MOVEMENTS, Germany, the Revolt of Youth, survey of, 262-265
- YUGOSLAVIA, statistics, 96

Collection of publications of the International Bureau of Education

ANNUAIRE INTERNATIONAL DE L'EDUCATION ET DE L'ENSEIGNE- MENT, 1938

(INTERNATIONAL YEARBOOK OF EDUCATION,
1938)

*General and Statistical Information furnished by the Ministries of
Public Instruction*

With the 1938 edition, the *Annuaire international de l'Education et de l'Enseignement*, published under the direction of M. Rossello, the Assistant Director of the International Bureau of Education, enters upon its sixth year. The 1938 Yearbook concerns 60 countries, being 3 countries more than for the 1937 issue.

As in the case of the preceding volumes, the 1938 Yearbook includes monographic studies concerning the principal educational innovations introduced in each country during the past year, and budgetary data on the participation of the Ministries of Public Instruction and other Ministries and of the Provincial and Municipal Authorities in the expenses of education. It also gives information on the cost of elementary, secondary, vocational and higher education, etc., and on the minimum and maximum salaries of teachers of all grades. Finally, the 1938 Yearbook contains statistical tables on the number of infant, elementary, higher elementary (senior or central), secondary, continuation, and vocational schools, normal schools or training colleges, universities and other schools of higher education, in each country, as well as the number of men and women teachers and pupils of both sexes in the different grades. These statistical tables have been compiled so as to show the development, not only of public education, but also of private school education in each country.

On sale at bookstores and at the
INTERNATIONAL BUREAU OF
EDUCATION
Palais Wilson—Genève

Price 12 Swiss francs, cloth bound •

EDUCATIONAL TRADITIONS IN THE BRITISH COMMONWEALTH OF NATIONS AND THE UNITED STATES OF AMERICA

By Dr NICHOLAS HANS, Ph D, D Lit

Dr Hans discusses in this book the relationship between educational traditions in the English-speaking nations and religious and secular traditions. The subject is dealt with from the Roman Catholic aspect, the Anglican, the Puritan and the Secular.

The final chapter is entitled, "The Resultant Variation of Educational Systems," and attempts to find the causes of the variations in the systems.

Professor F A Cavenagh, of the Department of Education, King's College, University of London, contributes an introduction, and a selected Bibliography concludes a book which is of outstanding interest to every educationist.

Price 2s 6d net, 2s 9½d post free

EDUCATION AND THE SOCIAL CRISIS

By REINHOLD SCHAIRER

That there is a social crisis every educationist agrees, but the connection between education and the crisis is less clearly appreciated. In this collection of essays Dr Schairer recounts the results of his original research into this problem in various European countries.

Dr Schairer has chosen Belgium, France and Denmark for his intensive study of the problem. Then follows a discussion of the question of the Raising of the School Leaving Age in Europe, and, finally, an appreciation of the valuable co-ordinating work being promoted by the two organisations known as The International Bureau of Education and the International Bureau of Technical Instruction.

Every student of comparative education will welcome the opportunity of studying the results of this outstanding discussion of a vital problem.

Price 2s 6d net, 2s 9d post free

EVANS BROTHERS LIMITED
Montague House, Russell Square, London, WC1

THE PROBLEM OF THE JUNIOR SCHOOL IN ENGLAND AND WALES

This discussion of the Junior School consists of six essays on various aspects of the subject, each essay being contributed by an author with practical experience of his subject

INTRODUCTION

*Professor H R Hamley, Professor of Education, University of London
Institute of Education*

THE NURSERY AND INFANT SCHOOL AS VIEWED FROM THE JUNIOR SCHOOL

Miss C M Collier, Hockerill Training College, Bishop's Stortford

THE POST-PRIMARY SCHOOL FROM THE POINT OF VIEW OF THE JUNIOR SCHOOL

S H Cracknell, Headmaster, Dalmain Road Junior School, London

THE JUNIOR SCHOOL FROM THE POINT OF VIEW OF AN ADMINISTRATOR

J Compton, Director of Education, Barking Education Committee

A CRITICAL VIEW OF THE JUNIOR SCHOOL

C H Hecker, Headmaster, Wilson's Grammar School, London

THE JUNIOR SCHOOL AND THE PROBLEM OF CO- ORDINATION

Harley V Unill

Price 1s 6d net, post free 1s 8d

NOTES ON EDUCATION

By E T CAMPAGNAC, MA

Professor of Education in the University of Liverpool

These notes provide the most practical way of obtaining two things

- (1) An Introduction to the Art of Teaching
- (2) An Introduction to the Philosophy of Teaching for the Students' Examinations

Professor Campagnac seeks to arrive at a definition of education by the study of definitions of education taken from the world's writers through the ages—from the Bible, from the works of Greek philosophers, from Shakespeare, Milton, Kant, and from modern writers, including the Board of Education's Code for Elementary Schools

These very diverse definitions are then related to to-day's problems in education in a discussion which bears the stamp of the authority born of Professor Campagnac's long and wide experience amongst teachers and taught. A number of pages are left blank for students' notes

Price 1s 6d net, post free 1s 9d

EVANS BROTHERS LIMITED.

Montague House, Russell Square, London, W C 1

THE TESTING OF INTELLIGENCE

General Editor

PROFESSOR H R HAMLEY

Professor of Education, University of London Institute of Education

With a Foreword by SIR PERCY NUNN

Formerly Director of the University of London Institute of Education

CONTENTS

INTELLIGENCE AND INTELLIGENCE TESTING

Prof H R HAMLEY, University of London Institute of Education

THE USES OF INTELLIGENCE TESTS

Prof H R HAMLEY

MENTAL TESTS FOR THE PRE-SCHOOL CHILD

Miss HILDA BRISTOL, Psychological Centre for School and Home, 28, Gower Place, London

THE USE OF STANDARDISED TESTS IN ENGLISH SCHOOLS

JOHN W COLLIER, Assistant Director, Northumberland Education Committee

MENTAL SURVEY OF SCOTTISH CHILDREN

Dr R RUSK, Director, Scottish Council for Research in Education

SOME USES OF INDIVIDUAL TESTS IN SCHOOLS IN SCOTLAND

Dr D KENNEDY FRASER, Psychologist to the Glasgow Education Committee, and Lecturer in Charge of the Training of Special School Teachers in Scotland

DIAGNOSTIC TESTS FOR SPECIFIC DISABILITIES IN SCHOOL SUBJECTS

Dr F J SCHONELL, Goldsmiths' College, London

DIAGNOSTIC TESTS IN READING AND SPELLING

Dr F J SCHONELL

DIAGNOSTIC TESTS IN ARITHMETIC

Dr F J SCHONELL

DIAGNOSTIC TESTS IN ENGLISH

Dr F J SCHONELL

TESTS OF TEMPERAMENT AND CHARACTER

Dr P E VERNON, Maudsley Hospital, London

TESTS IN AESTHETICS

Dr P E VERNON

VOCATIONAL TESTS

FRANK M EARLE, Principal, Kilmacally High School

MEASURING THE INTELLIGENCE OF ABNORMAL ADULTS

Miss CONSTANCE SIMMONS, Institute of Medical Psychology, London

MENTAL TESTS FOR PRIMITIVE RACES

Dr R A C OLIVER

Price 2s 6d net, post free 2s 9d.

EVANS BROTHERS LIMITED

Montague House, Russell Square, London, W.C.1

A GUIDE TO INTELLIGENCE AND OTHER PSYCHOLOGICAL TESTING

By E P ALLEN HUNT

*Seconded from the Notional Institute of Industrial Psychology to
the Staff of the City of Birmingham Education Committee*

and PERCIVAL SMITH

*Vocational Guidance Officer, City of Birmingham
Education Committee*

This book deals fully with the purpose and meaning of psychological tests, the dangers of their misuse, the methods of applying individual and group tests, and the interpretation of results. Chapters are also devoted to Tests of Special Aptitudes, Temperament and Its Measurement, Hints on the Technique of Testing.

A list of Definitions of Terms and a Bibliography complete this book, which is invaluable to everyone concerned with the subject of Intelligence Testing.

Price 2s net, post free 2s 2½d

THE PSYCHOLOGICAL ASPECTS OF CHILD DEVELOPMENT

By SUSAN ISAACS, M A, D Sc

*Head of Department of Child Development, University of
London Institute of Education, and Psychologist to the
London Clinic of Psycho-Analysis*

Dr Isaacs offers a bird's-eye view of the most significant recent advances in the psychology of infancy and early childhood, and the broad relations between the different fields of research in this subject. The book is built on the lines which the Author has for many years found fruitful in helping teachers to gain understanding of children.

The introductory chapter discusses the scope of the subject. The second chapter describes recent research and advances in the study of child development, while the third chapter deals with the practical educational bearing of the information made available by research.

A valuable classified bibliography completes the book.

Price 1s 6d net, post free 1s 7d

EVANS BROTHERS LIMITED,

Montague House, Russell Square, London, W C 1

THE EDUCATIONAL GUIDANCE OF THE SCHOOL CHILD

SUGGESTIONS ON CHILD STUDY AND GUIDANCE, EMBODYING A SCHEME OF PUPILS' RECORDS

This book is an account of experiments conducted by the Teachers' Advisory Committee of the Wiltshire Education Committee, assisted by the University of London Institute of Education, concerning a new scheme of Pupils' Records

The book explains a Rating Scale for Personality, Intelligence, Attainments, Interests, Home Circumstances, etc., and gives suggestions on making the record, on its interpretations, and on the measures which may be taken to deal with difficulties or weaknesses

Price 3s 6d net, post free 3s 9d

The four PUPILS' RECORD CARDS designed for use with the scheme are as follows

- | | |
|-------------------------|--------------------------|
| 1 Infant Admission Card | 3 Junior and Senior Card |
| 2 Infant Card | 4 Measures Taken Card |

Each card measures 13 ins by 8 ins Price 1s per doz Quotations for quantities on request

THE TRAINING OF TEACHERS

By W FRASER MITCHELL

Department of Education, The University, Reading

and GEORGES BEAULAVON

Honorary Inspector of the Paris Academy

The first section of this book covers the training of teachers in Europe, U.S.A., and the British Dominions from 1920-1935. Mr Fraser Mitchell gives an account of the effects on education of the post-war world, and the repercussions of these changes on the training of the teachers. Thus we find the Russian, Italian and German Revolutions all affecting the training of teachers. In Great Britain and the Dominions there has been a steady tendency towards humanism in post-primary education, while America is insisting more and more on equality as the keystone both of her social and educational structure.

In short, Mr Fraser Mitchell's review attempts to relate facts and tendencies in the sphere of the training of teachers to the great social and political movements which are rapidly reshaping the modern world.

M Beaulavon, in the second part of the book, presents a study of the training of secondary school teachers in France.

Price 1s 6d net, post free 1s 8d

EVANS BROTHERS LIMITED

Montagu House, Russell Square, London, W.C.1

THE EDUCATION OF BACKWARD CHILDREN

AND JUVENILE DELINQUENCY IN
ENGLAND AND WALES

The education of backward children is a problem engaging the earnest attention of every educationist. Teachers and administrators will find, in this collection of essays, much valuable information and fresh viewpoints expressed by acknowledged authorities on the subject. The contents of the book are as follows:

THE EDUCATION OF BACKWARD CHILDREN: Introductory Survey, Some Psychological Considerations, Education of Backward Children, Causes of Backwardness, Methods of Diagnosis and Organisation, Teaching Methods for Dull Children, Administrative Problems and the "C" Child, JUVENILE DELINQUENCY: General Survey, Psychological Aspects of Juvenile Delinquency

Price 1s 6d net, post free 1s 8d

A REVIEW OF EDUCATIONAL THOUGHT

Five distinguished authors present in this volume a review of the philosophy of education in the United Kingdom, America and France. Professor Clarke provides a general survey entitled "The Conflict of Philosophies." He is followed by Professor Cavenagh, of King's College, University of London, who writes on "The Development of Educational Thought in the United Kingdom, 1920-1935." Dr. C. W. Valentine of Birmingham University, writes on "Educational Psychology in the United Kingdom," while Dr. I. L. Kandel, of Columbia University, New York, contributes an illuminating section on the "American Philosophy of Education." M. Gérard Milhaud completes the volume with a study of "French Educational Philosophy."

The volume provides a comprehensive and authoritative survey of educational philosophy in the countries under review, and a study of its contents will make clear many of the post-war tendencies of education.

Price 2s net, post free 2s 3d

ACC 76938
EVANS BROTHERS LIMITED

Montague House, Russell Square, London, W.C.1

ADULT EDUCATION IN ENGLAND AND WALES AND THE UNITED STATES OF AMERICA

Prepared under the editorship of
W E WILLIAMS

Secretary of the British Institute of Adult Education

In the last thirty years adult education has grown in diversity as well as volume. The diverse aspects of the movement are here discussed and assessed, and conclusions drawn concerning future development.

THE CHANGING MAP OF ADULT EDUCATION

W E WILLIAMS

THE UNIVERSITIES' CONTRIBUTION TO ADULT EDUCATION

G I HICKSON, Secretary of the Cambridge Extra Mural Board

ADULT EDUCATION AND THE LOCAL EDUCATION AUTHORITIES

JOHN SARGENT, Director of Education, Essex Education Committee

THE NEED FOR PLANNING IN ADULT EDUCATION

ROBERT PETERS, Head of the Department of Adult Education, University College, Nottingham

BOOK SUPPLIES TO ADULT CLASSES

ERNEST GALEN, General Secretary of the Workers' Educational Association

EDUCATION IN THE UNEMPLOYED CLUB: AN INSIDE VIEW

C A STAVENS, Advisory Officer for Craft Work (Northern Area) to the National Council of Social Service

COMMUNITY CENTRES

LESLIE R. MISSEN, Secretary for Education, East Suffolk Education Committee

THE PUBLIC LIBRARY AND ADULT EDUCATION

EDWARD SYDNEY, Librarian, Leyton Public Libraries

ADULT RELIGIOUS EDUCATION IN THE CHURCH OF ENGLAND

R. B. PARSONS, Director of Religious Education, The National Society

ADULT RELIGIOUS EDUCATION IN THE FREE CHURCHES

DR. BASIL A. YEAXLEE, OBE, Lecturer and Tutor, Department of Education, University of Oxford

ADULT RELIGIOUS EDUCATION IN THE ROMAN CATHOLIC CHURCH

L. O'HEA, Principal, Catholic Workers' College, Oxford

ADULT EDUCATION IN THE UNITED STATES

LYMAN BRYSON, Professor of Education, Columbia University, New York

THE MATURITY OF ADULT EDUCATION: A SURVEY OF ACHIEVEMENTS, LIMITATIONS AND PROSPECTS

R. S. LAMBERT, Vice Chairman of the British Institute of Adult Education

Price 2s net, post free 2s. 2½d

EVANS BROTHERS LIMITED

Montague House, Russell Square, London, WC1